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NASA STI Bulletin

1984-1988

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1984

1983 Index to
NASA RECON User's Bulletin
 (Issues for January, February, and March)

and

NASA STI-RECON Bulletin & Tech Info News
 (Issues for May, June/July, August/September, October, and November)

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National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

STI-RECON Bulletin & Tech Info News

January 1984

NASA STI Conference: Focus on Publications

The NASA Scientific and Technical Information Branch (STIB) held its autumn 1983 conference of Center STI managers at the Capitol Holiday Inn, October 25-27. Mr. Van Wente, Chief, STIB was chairman. The purpose of these meetings is to help coordinate NASA Headquarters and Center STI activities, assure that NASA directives are being carried out, to project trends, and to give Center STI managers the opportunity to present their problems and seek solutions, either cooperatively between Centers or with Headquarters assistance.

Publications

Formal Report Series to be Reviewed

NASA Centers are very sensitive to assuring that the results of their work are published and widely distributed, but may find it difficult to fit them into a standard series. A basic responsibility of Center STI managers is to maintain acceptable quality in each type of report, so that the R&D results of that Center are distributed to the right people in the right format and reflect the Center in the best light. These range from quickly prepared reports to thoroughly reviewed and edited topical reports, state of the art studies, text books, translations, and mission summaries. Each type of publication should have its own distinctive criteria.

Representatives of Center publication activities are to form a group to review the situation. A review of the technical publications procedures at the Centers may be made in order to suggest techniques to provide better

delineation between types. Definitions that really do not fit anymore may have to be modified.

Project Monitor Review

Prior to January 1983, no formal direction had been given to NASA contractors as to where reports were to be sent other than to their Technical Monitors. However, as of September 9, 1983, in accordance with PRD 83-1, all reports should be submitted to the Contract Technical Monitor and after approval by the Technical Monitor, to the NASA STI Facility.

Report Preparation Guides

The Centers are interested in reformatting and updating guides to report preparation: SPs 7007, 7008, 7010, and 7013. The consensus was that the content of each should be reviewed and consolidated into one publication. STIB will take the initiative to proceed with this task as soon as practicable.

Initiatives 1984-1989

STIB's planned initiatives for the 1984-1989 timeframe include: marketing by AIAA of the Aerospace Data Base (STAR and IAA); NASA-wide showing of numerical databases; timeliness of document request ordering; development of a new Document Input System at the STI Facility; enhancements to NASA RECON and replacement of RECON terminals; optical disk storage for document delivery; the implementation of an interagency gateway information system; and a NASA-wide Integrated Library System.

*** IMPORTANT ***
*** Don't Forget -- ***
*** Disconnect Telenet ***
 * NASA/RECON users that utilize Telenet *
 * are reminded that Telenet will not *
 * automatically disconnect when they *
 * signoff NASA/RECON. *
 * Failure to disconnect Telenet has re- *
 * sulted in users being billed for *
 * much longer Telenet time than time on *
 * NASA/RECON. *

NASA/RECON Training New Session Scheduled

NASA/RECON Training has been scheduled as follows:

February 7 - 8, 1984 -- Basic training
at the Facility, BWI Airport, MD.

March 13 - 14, 1984 -- Advanced
training at the Facility, BWI
Airport, MD.

April 17 - 18, 1984 -- Basic training
at Kennedy Space Center, FL.

For further information, contact
Philip F. Eckert, (202) 621-0140.

Directory of Numerical Databases Search Strategy

The Directory of Numerical Databases can be established as a set on NASA/RECON, then can be manipulated to meet your needs.

Here are the steps:

ENTER: BEGIN BYPASS Q
(or BBQ)
ENTER: SELECT NNN/NASA

The entire data base is then available as Set 1.

Automatic Document Distribution Service

The Automatic Document Distribution Service (ADDS) makes available NASA reports to registered organizations for a yearly subscription fee. The documents available through this NASA STI Facility service consist of reports on research and development prepared by scientists and engineers working on NASA supported projects in Government agencies, universities, and private sector organizations.

These documents (available in both paper copy and microfiche formats) are abstracted and indexed in the semi-monthly issues of Scientific and Technical Aerospace Reports (STAR). Thus, twice each month about 300 NASA reports are announced in STAR and become available for distribution through ADDS. The subjects covered include all aspects of aerospace interest from aeronautics through social sciences. For announcement in STAR, the reports are collected in eleven subject divisions as follows:

Aeronautics	Mathematical and
Astronautics	Computer Sciences
Chemistry and	Physics
Materials	Social Sciences
Engineering	Space Sciences
Geosciences	General
Life Sciences	

For efficiency of distribution and convenience of use and storage, the reports are available in microfiche. Original documents are photoreduced in the standard National Microfilm Association (NMA) format of 98 frames per fiche (24:1 reduction). About 3,000 reports are made available on microfiche each year. The distribution fiche is in negative form on archival quality diazo film thus permitting high quality viewing and blow back capability.

For ADDS subscription fees, please contact the NASA Scientific and Technical Information Facility, Attn: Registration Activity, P. O. Box 8757, BWI Airport, MD 21240.

Antarctic Sea Ice Atlas

Special Publication Issued

NASA-SP-459, Antarctic Sea Ice Atlas, 1973-1976: Satellite Passive-Microwave Observations, has been published by the Scientific and Technical Information Branch and Goddard Space Flight Center.

The publication summarizes Antarctic sea ice cover observed by Nimbus 5 over a four-year period. While it is primarily intended to be a useful reference for climatologists and cryospheric scientists, it is also interesting reading for a technically educated audience. Data are presented in the form of color maps of the Antarctic and southern oceans.

The book was coauthored by H. J. Zwally, Josefino C. Comiso, Claire Parkinson, and Per Gloersen of GSFC, William J. Campbell of the USGS, and Frank D. Carsey of the JPL.

Copies may be obtained for \$21.00 from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402.

Document Deposit Accounts Available

The NASA STI Facility is prepared to establish Document Ordering Deposit Accounts. These may cover online ordering via NASA/RECON or other orders for documents, either hard copy or microfiche. Any amount may be used in such accounts to provide for future needs. Funds deposited now will continue to be available when needed, regardless of the advent of a new fiscal year. As noted in the August/September Bulletin, deposit accounts may also be opened for NASA/RECON. For further information, contact Ms. Mary Jo Minnick at the Facility: (301) 859-5300, ext. 222.

Inter-Agency Cooperation

The Department of Defense Technical Information Center, Department of Commerce National Technical Information Service, National Aeronautics and Space Administration Scientific and Technical Information Facility, and Department of Energy Technical Information Center--the major federal processors of scientific and technical information--are cooperating to determine a coordinated set of rules for cataloging, abstracting, and indexing report literature, including development and maintenance of cataloging standards and thesauri.

The agencies are supporting this effort out of a realization that simultaneous searching of diverse data bases is necessary for the support of their R&D efforts. The need to contain costs of data base preparation and the need for timely announcement of scientific and technical reports mandate the creation of standards and coordinated procedures that are economical to use and which adequately cover the materials which are made available to a diverse audience of researchers, program managers, information specialists, the general public, and commercial and industrial users.

Goals of the cooperative effort are:

- o Minimize the cost of transferring data among the agencies, and reduce the complexity faced by users in accessing multiple systems.
- o Encourage fast and timely announcement of new material. Allow technical report processing agencies to make bibliographic information about reports available quickly, by speeding up processing and discouraging backlogs.
- o To the extent possible, consistent with the missions of the different agencies, create and use standard rules and guides for cataloging, abstracting, and indexing, to improve the interchangeability of bibliographic records.
- o Publish and keep current guides to cataloging, indexing, and abstracting of reports.

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References of Interest

Corporate Author Authority List

The NTIS Corporate Author Authority List - 1983 is now available. This publication has been in development for several years and updates the earlier edition, NTIS Corporate Author Headings (March 1970). It is actually much more than the 1970 version, however, since the new CAAL contains approximately 35,000 main entries and cross-references triple the number of entries.

Initially designed as an authority file to meet NTIS' internal cataloging needs, this reference tool carries corporate names in both the COSATI and AACR2 formats. Additionally, entries include the numeric or alpha-numeric codes assigned by source agencies such as NASA for use in transmitting data digitally.

The 1,456 page hard-bound volume sells for \$175.00 and can be ordered from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. Reference accession number PB83-156034 in your correspondence.

Contributors to this issue of the Bulletin include: R. Buchan, J. Gignac, T. Kelly, Y. Turner, and J. Wilson.

Photography Index

An updated index of NASA photographs is now available.

Color 4-by-5 inch transparencies and black-and-white 8-by-10 inch glossies are available free to information media or to noninformation media for a fee. These photographs are government publications--not subject to copyright.

For a copy of the index, contact NASA Public Affairs Division, Audio Visual Section, LFD-10, 400 Maryland Avenue, S.W., Washington, DC 20546.

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

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Suggestions, material to be considered for inclusion, and comments may be directed to Yvonne Turner at the above address or telephone (301)621-0240, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202)755-3465.

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NASA STI-RECON Bulletin & Tech Info News

National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

February 1984

CENDI to Assist R&D Productivity

A cooperative effort is being undertaken to provide an organized program to take positive, coordinated actions to improve the productivity of Federal R&D through an efficient and responsive technical information programs. Organizations cooperating are the National Technical Information Service (NTIS), Department of Energy Technical Information Center, (DOE/TIC) Defense Technical Information Center (DTIC), and Scientific and Technical Information Branch, National Aeronautics and Space Administration (NASA/STIB). The name, CENDI, is taken from departmental initials. Participating members are: Joseph Caponio, Director NTIS; Joseph Coyne, Manager, DOE/TIC; Hubert Sauter, Administrator, DTIC; and Van Wente, Chief, NASA/STIB.

Objectives of the program are to:

- o Work with Federal R&D managers to improve the productivity of R&D and supporting scientific and technical information (STI) programs.
- o Improve the effectiveness and efficiency of STI programs through resource-sharing.
- o Establish systems and procedures and recommend policies to maximize the acquisition of foreign technology in exchange for designated technology produced by Federal R&D programs.
- o Improve the management of Federal scientific and technical information programs through sharing information and keeping restraints on costs.

- o Investigate ways of interacting closely with the private information sector.
- o Encourage cross-training and rotational assignments for agency scientific and technical information personnel.
- o Familiarize R&D managers and policymakers with the value and use of modern information systems and resources.

To undertake the coordination agreed upon by CENDI members, ad hoc groups will be established drawn from CENDI organizations. On occasion, other Federal agencies will be invited to furnish members for task groups when their interests are involved. The Planning Group will be a continuing group to articulate CENDI projected activities and coordinate ad hoc groups. Current projects include:

- o Accessing and post-processing data from multiple data bases
- o Optical Disk Systems
- o Descriptive Cataloging Rules
- o Indexing Coordination
- o Limitations to STI access required for security and protection against unauthorized foreign use.
- o STI support for Space Reactor Project

Buford Smith, Head, System and Retrieval Section is NASA representative on the CENDI Planning Group.

Lexical Dictionary Developed at STI Facility

Approximately half of the report literature added to the NASA STI Facility data bases each year has been previously cataloged, abstracted, and indexed by another agency. Much of this previously processed material is received at the NASA STI Facility in machine-readable form on magnetic tape. In order to make the most efficient use of this material, the NASA STI Facility's objective is to accept, as much as possible, the work done by other agencies and to minimize in-house handling.

The NASA Lexical Dictionary (NLD) System is part of this overall effort. The NLD accepts words and phrases from the document record created by another agency and translates them into valid NASA indexing terms which express the same concepts. These NLD translated terms are then reviewed by NASA Indexers.

The NLD System has two major goals: to improve productivity and to insure quality. Productivity is improved because indexers no longer need to "index from scratch," but only to edit the terms presented to them by the system and add anything missing that is important to the NASA environment. Because every term suggested by the system is a valid NASA term, time spent looking terms up in the Thesaurus is kept to a minimum. Quality is insured because the system translates the contributing agency's terms consistently and may suggest terms that would have been otherwise overlooked.

The first stage accomplished was development of the capability to translate the biweekly DTIC Technical Abstract Bulletin (TAB) tape into NASA Thesaurus terms. Work is progressing on the capability to translate the DOE Energy Data Base tape.

Planning has begun to build a Recognition Dictionary. This would allow

translation of any text received in electronic form, including titles and abstracts, into NASA Thesaurus vocabulary utilizing the NASA Lexical Dictionary. This will involve modification of an existing DTIC Recognition Dictionary to NASA specifications, creation of a NASA grammar to replace the DTIC grammar resident in a COBOL program obtained from DTIC, and modification of an existing COBOL program to run in an IBM rather than UNIVAC environment.

NASA/RECON Aids Small Business Innovative Research

Access to NASA/RECON is being offered to 103 high technology firms under a new program established by the Small Business Innovation Development Act of 1982 (Public Law 97-219).

The program is aimed at stimulating technological innovation in the private sector, strengthening the role of small businesses in meeting NASA's research and development needs, and contributing to the growth and strength of the nation's economy.

The companies were selected on their technical merit from nearly 1,000 who submitted proposals.

NASA/RECON will be of considerable assistance to these smaller research organizations for this program. The purpose is to have them help NASA in its advanced research, and to do so, they need to have quickly available material that will show them what is being done and has been done. This is another example of the use of NASA/RECON to increase R&D productivity.

Symbols Return to SCAN

At the request of several SCAN users, the pound (#) sign indicating microfiche availability and the asterisk (*) indicating NASA-funded have been restored in the SCAN citations.

Text Searching on Imbedded Punctuation

Just as with searching text which contain stopwords, internal punctuation poses a problem to the unwary searcher. Numeric "words" may be textually searched if certain rules are observed. Decimal points or periods and other special characters, e.g., slashes and commas, are treated as blank characters. The expression "1.06" becomes two words: 1 and 06.

Below are two methods of searching on 1.06-micron lasers in the abstract field. The mnemonics reflect that the user is searching in file collection F.

Method 1

ENTER:
S AX/1 *+1 06
RECEIVED: S AX/1 *+1 06

4 324 368 AX/1 *+1 06

In the above proximity search, the word "06" must follow the word "1" by one word. The search forms set 4 with 324 occurrences.

Method 2

ENTER:
S AX/'1 06'
RECEIVED: S AX/'1 06'

5 324 368 AX/1 *+1 06

This is a phrase search on the phrase 1 06. Note that set 5 has the same number of occurrences as set 4 had above. Below are two methods of searching for 10.6 micron lasers in the abstract field.

Method 1

ENTER:
S AX/10 *+1 6
RECEIVED: S AX/10 *+1 6

6 605 711 AX/10 *+1 6

Method 2

ENTER:
S AX/'10 6'
RECEIVED: S AX/10 *+1 6

7 605 711 AX/10 *+1 6

Again, note that the results are the same for both the proximity search (Method 1) and the phrase search (Method 2). To identify all the documents that mention both types of lasers in their abstracts, COMBINE sets 4 and 6 as below:

ENTER:
C 4 AND 6
RECEIVED: C 4 AND 6

Alphanumeric words may also be searched. For example, references containing data concerning the pH 6 through pH 6.99 range of acidity measurements in fluids (specifically the percentage of hydrogen concentration) may be retrieved by using the appropriate mnemonics to search the titles or the abstracts. In the example below, the user is searching in file collection D for occurrences in the abstract (AX) and unclassified title (UTP):

SELECT AX/PH *+1 6
SELECT UTP/PH *+1 6

Searches on D16 alloys may be entered as:

S AX/D16
S TX/D16
S ATL/D16
S UTP/D16

To ensure that variant references to D16 alloys are retrieved, the searcher should also enter phrase searches for 'D-16'.

Correction: Project Monitor Review

In the January Bulletin it was erroneously stated that under a new procedure NASA contractor reports would be sent to the NASA STI Facility after approval by the Technical Monitor. In September 1983 a request was made to the NASA Officer of Procurement to again revise the standard contract language giving the Technical Monitor the option of accepting reports prior to sending them to STIF. Implementation of this option and other alternatives is being discussed for possible inclusion in the NASA supplement to the new Federal Acquisition Regulation.

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Foreign Exchange Program

NASA has bilateral scientific and technical exchange agreements with 221 organizations in 43 countries. In addition, there are special document exchange relationships with another 75 organizations involved in space research or related activities.

Under a special arrangement with the Information Retrieval Service (IRS) of the European Space Agency, NASA makes its STAR and IAA files available to the IRS. Qualified European organizations which have completed a "tripartite agreement" with NASA and the IRS have online access to these files at an exchange rate of one in scope technical report for each hour of online access time.

There are approximately 400 organizations in 17 countries participating in this program. These exchanges bring into the NASA STI System approximately 8,000 quality titles per year.

For additional information about the Foreign Exchange Program, contact Mr. Phil Thibideau, NASA's Manager for International STI Activities, Code NIT-4, or telephone (202) 453-2939.

Contributors to this issue of the Bulletin include: P. Eckert, P. Thibideau, Y. Turner, and J. Wilson.

Heat Capacity Mapping Mission (HCMM) Anthology

SPECIAL PUBLICATION

NASA SP-465, The Heat Capacity Mapping Mission (HCMM) Anthology, has been published by the Scientific and Technical Information Branch and Goddard Space Flight Center. The publication describes and illustrates information gained through measurement of the intensity of thermal infrared radiation emitted from the ground.

This book was co-authored by Nicholas M. Short and Locke M. Stuart, Jr. of Goddard Space Flight Center.

Copies may be obtained for \$24 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

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NASA STI-RECON Bulletin & Tech Info News

National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

March 1984

Family of RECON User Documentation Announced

In an effort to meet the changing needs of the NASA/RECON user community, the NASA STI Facility conducted an extensive review of the current documentation available to users of RECON. Areas of study included content, organization, and physical format as required by the full range of users.

For instance, the new user may have no online data base searching experience or may be an experienced searcher of one or more other data bases who wants to learn the NASA/RECON system. Experienced users may be occasional or frequent NASA/RECON searchers, thus having different reference tool needs. It is with a sensitivity to the requirements of all of these members of the RECON community that the following family of documents is designed:

- o NASA/RECON User's Reference Manual serves as a comprehensive guide to all of the intricacies of RECON. Sections include What Information Is Available on NASA/RECON?, Computer System, Commands, Searching, Problem Solving, and Key Contact Points. The manual will be loose-leaf to facilitate updating, and tabs are included for easier location of text, appendixes, glossary, and index.
- o NASA/RECON User Introduction describes searching on RECON and is designed for the novice who wants to learn or the infrequent user who needs to brush up on search skills. Features of the workbook will include an overview of RECON and related documentation, task-oriented organization so the user can begin searches as early as possible, "cookbook" approach so that all information required for a task is in

a particular section, references to parallel sections in other documentation, ample terminal sections, and exercises.

- o NASA/RECON Pocket Guides help as a ready reference for novice and intermediate users. Content will not significantly change from the existing pocket guides, but organization and readability will be improved.
- o NASA/RECON Handbook aids the expert user by including technical depth of information in a compact, portable package. It will include summaries of commands with all intricacies, tables of reference data, and similar "bare bones" information with little or no connective narration. The document will be well indexed to ensure easy accessibility of reference information. Quite simply, it will be more than a pocket guide but less than the User's Reference Manual. This is, it will have the information depth of the User's Reference Manual and the portability and convenience of a Pocket Guide.

Common to all of these publications is a need for a more unified presentation of NASA/RECON information. A sketch of a CRT terminal serves to identify the User's Reference Manual, User Introduction, Pocket Guides, and Handbook as a family of documents. Color is also a unifying tool. Paper, cover, and print will carry a color theme.

The NASA/RECON User's Reference Manual has been completed and is undergoing final review. Publication of this and the other members of this family will begin in the spring. For additional information, contact Yvonne Turner at the Facility (301) 859-5300, ext. 240.

Requirements Analysis Underway for NASA Integrated Library System

NASA's Scientific and Technical Information Branch has been tasked to complete a requirements analysis for a NASA-wide Integrated Library System (ILS) by June 30. ILS has been conceptually formulated within the NASA library community over the last several months. In order to provide a framework for discussion, a proposed system network (see diagram on page 3) along with a compilation of ILS features and characteristics has been identified that can serve as an initial reference to be employed in the development of a detailed design. At the onset of this activity, it has always been understood that the NASA-wide ILS must satisfy the needs stipulated by the libraries it will serve.

The NASA-wide ILS would be developed as a centralized capability with distributed processing features. Utilizing existing IBM 4341 host computers at the NASA STI Facility, the NASA libraries would communicate with the standard protocols in IBM 3270, IBM 2780/3780, and TTY. To implement this system, candidate configurations at the participating libraries may include minicomputers employing off-the-shelf library support systems, microcomputers utilizing standard operating systems (e.g., MP/M), and standalone intelligent terminals. Local peripherals may include disks, printers, bar code readers, as well as communications equipment and other library-oriented devices. Specific configurations will be derived from the functional needs of the individual libraries.

The NASA-wide ILS will provide centralized, cost effective services for the participating libraries. These services will include: data entry, acquisitions, online cataloging, information retrieval, circulation control, authority file maintenance, interlibrary loan, electronic mail, and library management information.

Distributed processing will support the need for processing and local control of selected data. Users of the system will be able to switch between their local equipment and the host processor to perform a variety of library-oriented functions. This study must therefore determine what is needed in all areas (cataloging, serials processing, compatibility with MARC II, OCLC and RLIN interface, etc.).

The first step toward the realization of a NASA-wide ILS is the development of a definitive set of requirements.

In the compiling of the requirements analysis, Project Teams will communicate and coordinate with cognizant individuals and groups (e.g., library committees, NASA Center management, budget and accounting oriented personnel, contracting and personnel relations staff), in addition to those directly associated with the library operations. The Project Teams will include systems analysts and designers, librarians and library service managers, and experts in library systems automation. Current library systems, both in place and under development, will be examined to determine if they meet the needs identified by the requirements analysis.

The ILS requirements analysis will be performed by two Project Teams under the overall management of Buford Smith, Head of Systems and Retrieval, and under the guidance of a Steering Committee.

- o Travel Team. This group will consist of a NASA representative and three contractor (PRC) employees. The main objective of this team is to gather the data from the NASA library organizations needed to complete the requirements analysis and to facilitate an implementation plan.

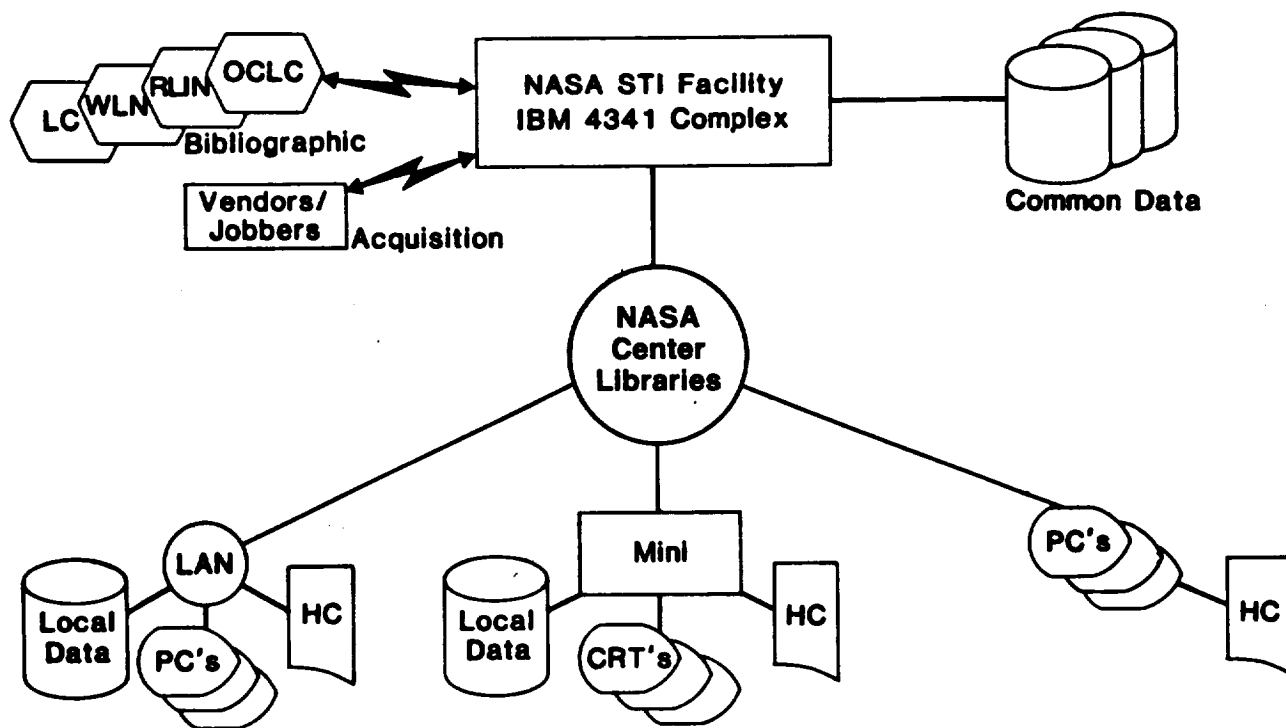
- o Support Team. This group, with NASA representation, will consist of contractor (PRC) employees from the NASA STI Facility. Their main objective will be to analyze the data gathered by the Travel Team and form it into a cohesive set of ILS system requirements. A task force selected from this group and augmented by specialized expertise will perform its own information gathering functions in order to document the currently available ILS software packages, evaluate appropriate remote processing units, identify communications alternatives, etc.

James Phillips
 Headquarters Representative
 Paul Bennett
 Ames Research Center
 Adelaide DeFrate
 Goddard Space Flight Center
 Jane Hess
 Langley Research Center
 Marie Kiely
 National Space Technology Laboratory
 Mike Konjevich
 Kennedy Space Center
 George Mandel
 Lewis Research Center
 Lois Robertson
 Marshall Space Flight Center
 Adel Wilder
 Jet Propulsion Laboratory
 Mary Huffer
 PRC/STIF Contractor Liaison
 Rexford H. Talbert
 Headquarters Coordinator

The Steering Committee will consist of NASA Center and Headquarters representatives, a NASA Headquarters coordinator, and a contractor (PRC) liaison representative. This committee's main objective will be to oversee the entire project. The following persons have been appointed to the ILS Steering Committee:

The ILS Steering Committee is critical to the success of the requirements analysis. It will interface with the NASA Center libraries and act as a decision-making body on ILS policy issues. For additional information, contact Mary Huffer at the Facility (301) 859-5300, ext. 202.

Potential ILS Network



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New Equipment and Procedures at AIAA/TIS

The American Institute of Aeronautics and Astronautics/Technical Information Service, located in New York City, compiles on the first and fifteenth of each month issues of the bibliographical journal International Aerospace Abstracts (IAA).

Each issue of IAA consists of approximately 1600 citations, with every citation averaging 2000 characters in length, including the abstract.

AIAA/TIS has recently installed a new word processing system of seven data entry terminals with local storage. The system has the capability to transmit data directly to the NASA STI Facility mainframe IBM 4341 computer.

AIAA/TIS transmits issue batches to the NASA STI Facility twice a month. Also twice a month, AIAA/TIS prepares a magnetic tape containing data processed and formatted for the photo-composition of the abstract section of IAA.

Production procedures for the IAA have been streamlined to take maximum advantage of the system's capabilities. Remaining machine-detectable errors, flagged by the NASA STI Facility, are

stored in a data set for remote examination and correction by AIAA.

Upon completion of the cycle, the NASA STI Facility prepares computerized IAA indexes and forwards them to GPO for video-composition. The resulting negatives are sent to AIAA/TIS in New York City where, together with the photocomposed pages, they are processed for printing and publication.

For additional information, contact Irene Bogolubski at AIAA (212) 247-6500.

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Suggestions, material to be considered for inclusion, and comments may be directed to Yvonne Turner at the above address or telephone (301)621-0240, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202)453-2904.

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NASA STI-RECON Bulletin & Tech Info News

National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

April/May 1984

Current Awareness Review: Focus on SCAN

Since Scientific and Technical Aerospace Reports (STAR) and International Aerospace Abstracts (IAA) announce more than 65,000 documents a year, busy individuals expressed a need for a more specific supplementary announcement service. Consequently, STAR and IAA's broad aerospace coverage was sliced into 186 specific and significant subject areas to produce Selected Current Aerospace Notices (SCAN) almost ten years ago. Specialized periodic bibliographies were also produced. The bibliographies include Aeronautical Engineering, Aerospace Medicine and Biology, Earth Resources, Large Space Structures Technology, Patents, and Management.

Twice a month, a participant receives computer-generated listings of new documents on one or more of the 186 topics of special interest to him. SCAN helps scientists and engineers with prompt notification of recently issued reports, journal articles, translations, and conference papers in their own specific aerospace areas. By carefully choosing one or more SCAN topics, a participant has an excellent probability of obtaining good coverage of new literature interests without excessive duplication of announcement or excessive nonrelevant materials.

In the aerospace field, a decade has brought in a new age, and it is time this popular current awareness product was reviewed. Actually, this evaluation is a part of an overall review of NASA's bibliographical announcement and current awareness series, following on a recent survey of NASA Centers and contractors (see related article in the May 1983 issue of the Bulletin). SCAN and the

periodic bibliographies rated lower in the survey than anticipated. Since these are more focused cuts of the data bases available online on NASA/RECON and as published in STAR and IAA, one would expect them to assist users to zero in on documents they need.

A major purpose of the review of the announcement and current awareness services is to bring them in line with NASA's mission. For instance, with the reduced energy program in NASA, the Energy quarterly has been discontinued after the issue covering the last quarter of 1983.

Changes in NASA's mission indicate directions to be reviewed as potential new thrusts for SCAN. Recent announcement of the space station effort provides a major new initiative for NASA. The earth resources program has shifted to emphasis on development and testing of instrumentation and data handling procedures. Managers have increasing needs for STI -- particularly in NASA, where management means running R&D and engineering projects. There is also a worry that the U.S. industry is not making all the use it might of foreign technology. What does this mean for SCAN?

Well, it means we look to see if we shouldn't have topics related to the space station, and the space reactor SP-1 project, and to foreign technology. It means we should descope energy topics and shift the emphasis of earth resource-related subjects. It means we need to try to find topics that will help managers be better managers.

Continued on page 2

Continued from page 1

Changes in STI presentation, access, and use affect current awareness services such as SCAN. For example, expansion of usage of NASA/RECON and UPDATE, the monthly service for individual profiles, has probably had some impact on users' requirements for a product such as SCAN. UPDATE is now being provided to the principal investigators on NASA R&D contracts from a profile based on the technical description in the contract.

We want to make SCAN easier to produce and at the same time continue to reflect NASA's mission. So we're looking at simplifying the profiles, making them easier to update. We should compare the topics annually against documents that reflect NASA's overall mission, such as the yearly Research and Technology Objectives and Plans (RTOP) Summary and the budget documents. And we want to get SCAN out faster. Producing SCAN via laser printer, in the next year or two, we would hope literally to have SCAN in the mail overnight. Days are dollars for NASA's R&D programs.

SCAN is available to all NASA employees, other U.S. Government agencies, contractors, and universities. For registration, contact Joe Gignac at the Facility (301) 859-5300, extension 160. Additional questions about SCAN should be directed to John Wilson, Code NIT-2, Washington, D.C. 20546, or telephone (202) 453-2933.

Aviation Fuel Economy

Fuel Economy in Aviation, NASA SP-462 (84N15144), has been published by the Headquarters Scientific and Technical Information Branch. The publication is an account of the origins and successes of the nation's Aircraft Energy Efficiency (ACEE) program authorized by the U.S. Congress in 1975, and carried out by NASA.

The author is Jeffrey L. Ethell, an aviation writer, and the book has a foreword by William S. Aiken, Jr., Director of the Aeronautical Systems Division. Copies may be obtained for \$15.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Value of S & T Documentation

Those of us in the information profession at NASA don't need to have proved the great value of the information data base we build and maintain and the products issued and services performed. Response from the users is felt to be sufficient proof of need. But over the years, there has been the nagging concern to put a dollar value on that data base and those products and services. And our management would like to have some indication of the return on investment.

With National Science Foundation support, King Research, Inc. developed a methodology and applied it to the Department of Energy Technical Information Center, Oak Ridge, and the Department of Defense Technical Information Center. A few inferences from these studies can be applied to NASA's STI activities.

The resulting dollar values indicate that NASA's STI operations give impressive returns on investment. As important are the projected activities in relation to what has been called the "information explosion," and more recently, the "information economy." NASA's STI system also has great current and potential value in looking forward to STI needs of the Space Station.

Value of Data Base

Since 1959 NASA has expended \$67.9 billion for R&D. NASA/STIB's data base includes all documents issued as a result of this research. In addition, results of all R&D from all over the world related to NASA's mission are also included. Since NASA documents represent about 25% of the file, the data base actually represents several times the \$67.9 billion. Certainly a value of \$150 billion is conservative. There are about 250,000 NASA reports and papers in the data base. This means that on the average, each document contains about \$270,000 worth of R&D, inflationary increases in value being offset by the natural decay in value of older material.

Cost-Avoidance Attributable to Reading

Of a total of approximately 120,000 employees of NASA and its contractors, an

Continued on page 3

Continued from page 2

estimated 38,500 are scientists and engineers (S&E) and 13,500 are professional administrative. These are the potential users of the NASA data base.

If as DOE found, each NASA S&E does 20 technical report and 20 journal article readings a year attributable to use of NASA STI data products and services, there are a total of 770,000 readings. At \$1,280 saved per report reading and \$590 saved per journal article read, \$1.4 billion is saved by virtue of NASA STI data base products and services. Total costs attributable to use of NASA STI data base products and services are something less than \$100,000,000 per year. The cost avoidance is \$1.3 billion per year. Thus, NASA's R&D outlay for 1983 of \$5.3 billion would have required \$6.6 billion without the NASA STI data base services.

Probably 50% of readings result from NASA/RECON searches or current awareness service, and 50% from announcement publications, with savings of, perhaps, \$650 million per year each. Online use is increasing. There are approximately 45,000 NASA/RECON searches annually related to readings, giving such searches a value of \$14,000 each. Estimating an average search costs \$200, including work time and system costs, the ratio of return is about 70 to 1.

Anticipated Increase In Value

Use of STI products and services by administrative professionals constitutes value added to that of S&E use. Use of NASA/RECON is increasing for managers and administration and is an area in which considerable growth can be expected. The availability of the Aerospace Database, through the American Institute of Aeronautics and Astronautics, to vendors or for private use will increase the access to the NASA STI data base and the number of readings attributable to it throughout the public and private sectors.

References

Scientific Journals in the United States: Their Production, Use, and Economics. D. W. King, D. D. McDonald, and N. K. Roderer. Stroudsburg, PA, Hutchinson Ross Publishing Co, 1981.

Value of the Energy Data Base. D. W. King, et. al. U.S. Department of Energy, Technical Information Center, Oak Ridge, March 1982. DOE/OR/11232-1 (DE82014250) 83N77686

The Use and Value of Defense Technical Information Center Products and Services. N. K. Roderer, D. W. King, and S. E. Brouard. King Research, Inc. ADA130805 84N11061

Integrated Library System Visits In Progress

The Integrated Library System Travel Team has begun site visits to gather data for the requirements analysis (see related article in March 1984 issue). The following schedule is being used.

Week of	Center(s)	Located Near
Feb. 27	NASA Headquarters	Washington, D.C.
March 5	Goddard/Wallops	Washington, D.C./ Wallops Island, VA
March 12	Langley	Hampton, VA
April 2	Johnson	Houston, TX
April 5	NSTL	New Orleans, LA
April 9	Lewis	Cleveland, OH
April 16	Kennedy	Cape Canaveral, FL
April 30	Ames/Dryden	San Francisco, CA
May 7	JPL	Pasadena, CA
May 21	Redstone/Marshall	Huntsville, AL
May 28	AIAA	New York, NY

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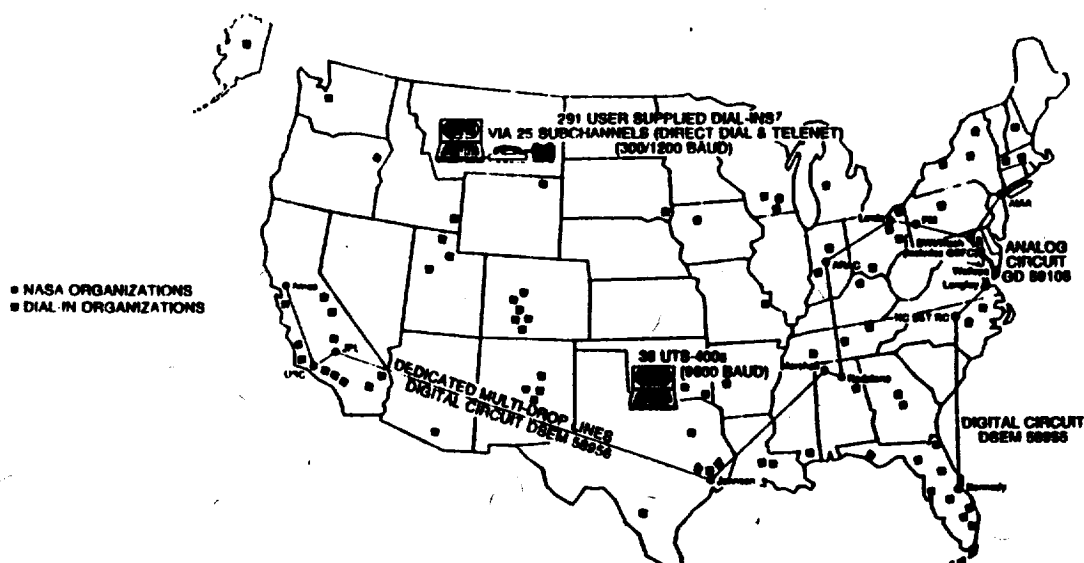
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NASA/RECON Network of Users



The NASA/RECON family of official users now stands at about 330. This figure does not count secondary users who request searches from the NASA STI Facility, Industrial Applications Centers, and State Technology Application Centers. Above is a representation of current terminals or passwords which includes:

NASA (including JPL, RSIC)	61
NASA Facility	29
IACs/STACs	21
AIAA	4
DOE Exchanges	1
U. S. Government	51
Industry	125
Universities	40
Total (April 1984)	332

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NASA STI-RECON Bulletin & Tech Info News

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JUNE/JULY 1984

Space Nuclear Power Program Supported by CENDI

NASA/STIB is participating in an inter agency effort to mobilize the combined STI resources and data bases of the Departments of Commerce, Energy, NASA, and Defense (CENDI) to build a computerized bibliographic data base relevant to the Space Nuclear Reactor (SP-100) Program. Such a data base will serve as a centralized resource for real-time searches and the preparation of selected subject bibliographic reference documents.

The SP-100 program was initiated in February 1983 through a Memorandum of Agreement signed by DARPA (Defense Advanced Research Projects Agency), NASA, and DOE. The Jet Propulsion Laboratory provides project management and is the contracting agency.

Now in the critical technology phase (also called the technology assessment and advancement phase), mission concepts that are enabled or greatly enhanced by the use of 100KW nuclear reactor system are being identified and characterized. Space nuclear power technology is over 20 years old and some 20 military space missions were dependent upon nuclear power systems between 1961 and 1977.

Currently, material essential to the SP-100 Program exists on several data bases managed by DOE, DOD, and NASA. No single bibliographic search will yield all the relevant citations from all of these data bases. In order to provide the SP-100 technical community ready access to the maximum number of relevant documents while demonstrating the cooperative efforts of the CENDI agencies, a separate, centralized space nuclear power bibliography file will be established by the end of CY 1984.

Material for this file will come from selected subject searches and subsequent transferral from the various CENDI data bases. As a result of the breadth of subjects relevant to such a data base and the short time in which to accomplish the objective, this effort will require a high level of coordination, cooperation, and communication by all participants.

To assure that the results of these efforts will be pertinent to the SP-100 technical community, under CENDI direction, with the DOE Technical Information Center as lead, the Oak Ridge National Laboratory (ORNL) will coordinate the development of the data system for the CENDI group.

Recognizing that (1) references relevant to a given subject may exist on all the CENDI data bases, and that (2) the technical contacts within the SP-100 Program will have limited time to provide assistance, a "key agency" approach will be used. Using this approach, subject areas will be divided among CENDI agencies. Each agency will have subject areas for which it has lead search responsibility. An information specialist from the CENDI key agency will work with a SP-100 technical specialist to establish search strategies and, where possible, do preliminary searches at the technical contact's location.

However, there are some potentially relevant references from the 1960's and 1970's that may not exist on any data base. These references will be investigated by CENDI staff

Continued on page 2

ARIN Steering Committee Meets

The Aerospace Research Information Network (ARIN)* took an important step toward evolving into a NASA-wide system with the first meeting of the Steering Committee on June 20, 21, and 22.

The Steering Committee (comprised of librarians from the NASA Centers) established the following four sub-committees to analyze major issues:

- Standards
- Data Base Conversion
- Cost/Schedule
- User Group

Each subcommittee will be augmented with staff from the participating NASA Center libraries and STIB and STIF for specific technical assistance.

It was jointly agreed that documents currently in the NASA/RECON system will be made available to the circulation system under ARIN. Cost responsibilities were allocated for Data Conversion, Site Preparation, and Maintenance.

The selection of a software package for ARIN was narrowed down to candidate systems that meet requirements.

Several items require action on the part of each Center library in order to properly estimate costs:

- Identify any changes required in the proposed equipment list.
- Validate the recent synopsis of their library so it can be compiled into a consolidated overview.
- Identify all ADP costs associated with their library operation.
- Independently provide a list of what is considered the primary benefits of ARIN for their library and Center.
- Make corrections to consolidate collection of statistics regarding library operation.

*In previous issues of the Bulletin referred to as the Integrated Library System (ILS).

The next several months will require wrestling with the analysis, compilation, and presentation of data related to the ARIN Project. The successful implementation of ARIN will provide a much needed network for the libraries, and is the initial stage of a truly NASA-wide interactive STI system.

Call for Suggestions: User Group Starts Up

As reported in the November 1983 Bulletin, the STI Branch is forming a User Group for NASA/RECON. The first meeting is scheduled for September 27 and 28 at NASA Headquarters. For further information or to make agenda suggestions, contact John Wilson, telephone (202) 453-2933.

NASA/RECON Hours Extended

NASA/RECON hours of availability have been extended. Effective immediately, the system will be up from 8 am to 8 pm Eastern time, Monday through Friday.

SP-100 -- Continued from page 1

and entered into the computerized system as appropriate.

Benefits undeniably accrue when relevant information is available to a researcher or project. In the case of the SP-100 Program, research and development activities worth over \$1 billion have been performed previously in relevant areas. The ability to locate and use such information will prevent unnecessary duplication of effort and will provide substantial cost avoidance opportunities.

An additional benefit to the SP-100 Program as it grows in the coming years will be that the data base system and basic publication processing and control systems will have already been developed. Such interagency support systems will be critical to the success of the Program.

Three New Special Publications Announced

The following three Special Publications have recently been released by NASA:

Stellar Atmospheric Structural Patterns, NASA SP-471(N84-19253), is the fourth volume in the NASA (Goddard) and National Center for Scientific Research (Paris, France) monograph series, "Nonthermal Phenomena in Stellar Atmospheres." This volume summarizes current theories of stellar-atmospheric structure and then offers empirically-based "patterns" of stellar-atmospheric structure as a basis for substantially improving existing theory. It was authored by Richard N. Thomas of the CNRS. Copies may be obtained for \$29.50 from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

Long Duration Exposure Facility (LDEF): Mission 1 Experiments, NASA SP-473, has been published by the Scientific and Technical Information Branch and the Langley Research Center. The LDEF contains 57 experiments developed by the United States and eight other countries and was launched on the STS-13 mission in April 1984. It was edited by Lenwood G. Clark, William H. Kinard, David L. Carter, Jr., and James L. Jones, Jr., of Langley.

Copies may be obtained for \$19.00 from the National Technical Information Service, Springfield, Virginia 22161.

NASA SP-466, The Star Splitters: The High-Energy Astronomy Observatories (N84-22516), has been published by the Scientific and Technical Information Branch. The book summarizes the agency's HEAO program which produced major astronomical discoveries. Three HEAO satellites were launched for further scientific understanding of the high energy universe. One of the Earth orbiting satellites, HEAO 2 launched in 1978, is popularly known as the Einstein Observatory. The author, Mr. Wallace H. Tucker, is an independent writer with the Harvard-Smithsonian Center for Astrophysics.

Copies may be obtained for \$12.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

As a reminder, these publications can also be ordered online using the NASA/RECON ORDER command.

Thesaurus Supplement Published

A new publication entitled the NASA Thesaurus Supplement provides a regular update to hierarchies of new terms, an access vocabulary of new terms, and a listing of deletions which includes changes and transfers. This semiannual publication dated January 1984 will be superseded by a cumulative supplement dated July 1984. New terms to that issue will be indicated with a bullet beside the new term in the Hierarchical Listing.

Readers are urged to submit suggestions for new terms to Ronald L. Buchan, Lexicographer, NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, MD 21240 or telephone (301) 859-5300, extension 103. A form for requesting new terms is available. This form facilitates the process of entering a new term. Each recommended term is subject to extensive scrutiny and research and not every term that is suggested is added to the NASA Thesaurus.

BROWSE: New Command

The BROWSE command allows the dial-up user to display accession numbers, citations, and parts of citations continuously from the user's sets with one command:

<u>To BROWSE:</u>	<u>Enter:</u>
set number	BR 1
set number/format	BR 1/2
set number/format/range	BR 1/2/150-200
set number/format/all	BR 1/2/ALL

To stop the BROWSE command before the range specified is complete, hit the BREAK key.

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European Space Agency's Bond with NASA

NASA's close STI ties to the European Space Agency (ESA) had their origin in a simple exchange of letters in 1964 between NASA's Deputy Administrator, Dr. H. L. Dryden, and Professor P. Auger, Director General of the European Preparatory Commission for Space Research. Professor Auger was subsequently Director General of the European Space Research Organization [ESRO], ESA's predecessor.

That arrangement called for the usual exchange of technical reports and publications. It was later expanded to include microfiche and computer tapes. In 1972, both parties agreed to test an online system in Europe which would provide qualified Western European organizations with online access to the NASA STAR and IAA files. This new system was to be managed by what became known as ESA's Information Retrieval Service (IRS) located in Frascati, Italy, just outside Rome. In return, these European organizations were to provide at least one inscope technical report for each hour of online access time.

This exchange arrangement has proven to be an outstanding success, and as a result, the IRS is now sending approximately 3,500 technical reports per year into the NASA STI system. Today, more than 400 European organizations participate.

For additional information, contact Mr. Phil Thibideau, Manager for International STI Activities, Code NIT-4, or telephone (202) 453-2939.

Soviet Aeronautics Bibliography Planned

The NASA STI Facility is producing a special bibliography with abstracts for aeronautical entries with USSR as country of origin. Using 1975 to date accessions, Aeronautical Engineering profile terms will be used for subject matter selection. Regular STAR categories will be included. Publication is anticipated for Fall 1984.

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NASA STI-RECON Bulletin & Tech Info News

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AUGUST/SEPTEMBER/OCTOBER 1984

Password Control for UTS-400 Users

Password control of access to limited distribution documents now includes all NASA/RECON user sites. Dial-in passwords have previously been controlled according to personal or Facility clearances. Control has now been extended to the hardware terminals.

Due to the fact that some UTS-400's are available to library patron's in unrestricted areas, it has become necessary to develop a capability to restrict access to sensitive files on hardware devices.

To accomplish this, a new parameter has been added to the UTS-400 that will require hardware users of NASA/RECON to use passwords to control security access. Entering a BEGIN command without a password or with an invalid password will result in the default security classification and default affiliation code assigned to the device. Default for each device is determined by the Library management.

A maximum of four password levels plus one default may be given for each UTS-400. UTS-400 users may choose any security level as the default for individual devices.

There is currently a 15-minute timeout for passwords if an END SEARCH or new BEGIN SEARCH is not used to close a session. After 15 minutes, if there has been no activity, the UTS-400 reverts automatically to the default security and affiliation. Users should be instructed to use BEGIN

with the password in order to gain access to classification permitted.

New HELP Messages

Two levels of HELP messages are now provided for RECON users when RECON encounters difficulty processing their commands. For expert users, an abbreviated description of the error is used. For intermediate users, a more extensive explanation of the error plus possible ways of correcting it, or examples of the acceptable input format are given.

Users are given the option to choose their level of expertise at the beginning of the RECON search. Entering an I will provide the user with intermediate level messages. An E will provide expert level messages. Any other character or a blank will cause the system to default to expert level user.

For example, if an expert user created a set 1 and then entered:

LIMIT 1/X

that user would receive the message:

INVALID YEAR RANGE.

If an intermediate user had entered the same transaction, the message would read:

INVALID YEAR RANGE

Requested year or range of years is invalid. You probably typed an alphabetic character(s) instead of a numeric character(s) or you have asked for high to low year range. Correct errors and reenter LIMIT command.

RECON Operating Notes

If, for any reason (power failures or otherwise), RECON becomes inactive and the downtime can be predicted, the Facility will attempt to warn users that RECON will become temporarily inactive and for how long.

When RECON resumes processing after downtime, the user must do the following in order to reestablish the same specifications that were set before the downtime:

- Reenter any SPECIFY FORMAT which was active before the downtime.
- If a dial-up user, reenter any LIMIT ALL which was active before the downtime.

Note that previously developed sets are preserved, including the KEEP set.

In the event that a dial-up user signs off and signs on later, all previous SPECIFY FORMAT and LIMIT ALL commands must be reentered if still needed.

An END SEARCH automatically nullifies SPECIFY FORMAT and LIMIT ALL for all RECON users.

Use the SS (SET STATUS) and the CU (CURRENT) commands to verify the settings of your RECON search when unsure about your search status.

NASA Lexical Dictionary Publication to Press

NASA CR-3838, An Operational System for Subject Switching Between Controlled Vocabularies: A Computational Linguistics Approach has gone to press. The volume was prepared by June Silvester, Roxanne Newton, and Paul Klingbiel to document implementation of the NASA Lexical Dictionary (see related article in February 1984 Bulletin).

The NASA Lexical Dictionary (NLD), a system that automatically translates input subject terms to those of NASA, was developed in four phases. Phase One provided Phrase Matching, a context sensitive word-matching process that matches input phrase words with any NASA Thesaurus posting (i.e., index) term or Use reference. Other Use references have been added to enable the matching of synonyms, variant spellings, and some words with the same root. Phase Two provided the capability of translating any individual DTIC term to one or more NASA terms having the same meaning. Phase Three provided NASA terms having equivalent concepts for two or more DTIC terms, i.e. coordinations of DTIC terms. Phase Four was concerned with indexer feedback and maintenance. Although the original NLD construction involved much manual data entry, ways were found to automate nearly all but the intellectual decision-making processes. In addition to finding improved ways to construct a lexical dictionary, new applications for the NLD have been found and are being developed.

Work on the NLD, done by Planning Research Corporation/Government Information Systems, was supported by the National Aeronautics and Space Administration's Scientific and Technical Information Branch under contract NASw-3330. The period of performance covered by this report is from November 2, 1981 to December 31, 1983.

STAR/IAA on DIALOG

Lockheed Information Systems has signed an agreement with American Association of Aeronautics and Astronautics (AIAA) to make available the Aerospace Database on DIALOG. AIAA is the agent for NASA's Scientific and Technical Information Branch to lease the Aerospace Database, which contains all items included in Scientific and Technical Aerospace Reports (STAR) and International Aerospace Abstracts (IAA). It is anticipated that the Database will be accessible online early in 1985.

User Reference Manual Is on Its Way

The new NASA/RECON User's Reference Manual announced in the March 1984 Bulletin has been sent to the printer, and users can expect to receive their copies on automatic distribution as soon as they become available. Just as a sneak preview, below is a sample page from one of the new sections: a guide to telecommunications problems. The solutions are organized in the most logical sequence for trial. But this is just an appetizer. You'll have your own copy in an estimated four weeks.

<u>Problem</u>	<u>Solution</u>
No "Power On" indication on terminal or modem.	<ul style="list-style-type: none"> • Check switch, power, and fuse. If these are okay, call terminal or modem maintenance.
When dialing computer or Telenet, phone rings continuously.	<ul style="list-style-type: none"> • May be dialing wrong number. Ensure you are dialing a RECON Computer number or a Telenet access number.
	<ul style="list-style-type: none"> • If dialing a RECON number, RECON may be down temporarily. If dialing a Telenet access number, your local Telenet mode is probably experiencing problems. In either case, if the problem persists for a half hour or longer, please contact the RECON Coordinator and report the problem.
When dialing the RECON number, a busy signal is received.	<ul style="list-style-type: none"> • This indicates that all of the dial-up ports are busy. If the condition persists for 20 minutes or longer, please contact the RECON Coordinator and report the problem.
When dialing your Telenet access number, a busy signal is received.	<ul style="list-style-type: none"> • This indicates that all of the local Telenet ports are busy. <p>You might:</p> <ul style="list-style-type: none"> • Keep trying until the number is not busy. • Dial the RECON number directly (long distance). • If you are dialing the low speed (300 bps) number, try dialing your local Telenet 1200 bps number, if one is available. This number should also work for low speed modems.

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Washington, D.C.
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P O BOX 3757 BWI ARPRT
BALTIMORE MD 21240



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International CENDI Working Group Formed

The Commerce (NTIS), Energy (OSTI), NASA (STIB), and Defense (DTIC) Information Group (CENDI) principals have established a Working Group on International Scientific and Technical Information Activities which will address such issues as the coordination of international STI acquisitions and the impact on STI of the prospective U.S. withdrawal from UNESCO. The Working Group will have other issues assigned to it from time to time and will also serve as a forum for the continuing exchange of information on international STI.

The Working Group participants include Philip A. Thibideau (NASA/STIB), chairman; Gladys A. Cotter (DOD/DTIC); David B. Shonyo (DOC/NTIS); and Charles E. Stuber (DOE/OSTI). Ray Bedford from DOE/OSTI's Washington office will also be assisting the Working Group.

Update on BROWSE

As a follow-up to the BROWSE command article in the June/July issue of the Bulletin, here are additional guidelines.

As mentioned before, the BROWSE command allows the dial-up user to display accession numbers, citations, and parts

of citations continuously from the user's sets with one command:

To BROWSE:

Enter:

set number	BR 1
set number/format	BR 1/2
set number/format/range	BR 1/2/2-8
set number/format/all	BR 1/2/ALL

The default for the BROWSE command, if a range is not specified, is one accession or a page size for format 1.

For dial-up users who wish to stop a BROWSE display screen from scrolling, simply enter CNTL (or ATL) and S simultaneously. To restart the scrolling, enter CNTL (ATL) and Q simultaneously. This may be done as often as you wish during the execution of BROWSE.

To stop the BROWSE command before the range specified is complete, hit the BREAK key two times.

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Yvonne Turner at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, STIF.

NASA STI-RECON Bulletin & Tech Info News

National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

NOVEMBER/DECEMBER 1984

First NASA/RECON User's Conference a Success

In response to requests from many users, the NASA Scientific and Technical Information Branch sponsored a NASA/RECON User's Conference in Washington D.C. on September 27 and 28, 1984, at the Twin Bridges Marriott Hotel.

An information-rich two days enhanced attendees' knowledge of the system, acquainted them with new and planned features and applications, and increased the usefulness of NASA/RECON. There were workshop sessions on techniques and approaches, presentations on special applications, and formal and informal opportunities for users to exchange experience and expertise with fellow users. Personnel who build, maintain, and provide access to the data base were on hand to conduct sessions, answer questions, and provide information to enable users to make optimum use of RECON.



The NASA/RECON system continues to be a pace setter in the advancement of information technology as an online, bibliographic retrieval system. This information tool has greatly enhanced R&D productivity and contributed savings in time and money on aerospace and related research projects. One of the objectives of the conference was to provide a format for users to give managers of the system an increased understanding of present and future requirements of the system. Users were encouraged to provide insight into the

techniques found to be successful to better tailor the system's needs.

Over 140 users registered for the Conference. Mission Specialist Richard Mullane from the Space Shuttle mission 41D gave a firsthand account of what



confronts an astronaut. Congressman George Brown, of California, provided an overview of Congressional thinking on our national information problems. A hands-on area furnished with terminals and microcomputers gave users a chance to demonstrate to one another their special ways of searching. Luncheon round-tables provided opportunity to exchange views and focus on issues and problems not addressed in the plenary sessions or the workshops. Response was enthusiastic.

A NASA/RECON Working Group representing users was established to work with other users, help address their problems, and assist STIB in planning major improvements in NASA/RECON. They will work with other users to help address their problems and insure their requirements are met with future NASA/RECON development activities.

It is anticipated that a second NASA/RECON users' conference will be held in mid September of 1985. You are encouraged to make plans to attend. We hope to see you there!

Retrospective Indexing for New Terms

Beginning November 19, 1984, new Thesaurus term retrieval became even more effective. The Facility has developed a computerized technique for applying new Thesaurus terms to existing records. We call it retrospective indexing. When we adopt a new term as a valid Thesaurus term, our indexers begin using it immediately for new documents being processed into the NASA data base. We now have a cost effective method of adding the new term to document references already in the data base.

If the new term occurs in the title, or title and abstract, of any existing record, the record becomes a candidate for major term assignment. If the term occurs in the abstract only, it is a candidate for minor term assignment. We look for variations of the term, not just for an exact occurrence of the term. For example, in checking for "numerical data bases", we look for "numeric" and "numerical", and "data bases" as one and two words, for singular and plural occurrences. All references containing the term and its variant forms are listed

with the computer assigned major/minor designation. We review the listings, make any changes via an online terminal, and then execute a transaction that adds the new term to all the records in which it has been found.

Retrospective indexing is now an integral part of our procedure for introducing a new Thesaurus term. It is applied across the NASA data base, that is for all files except the old file (the G file). At this time we are retrospectively indexing records with new terms only, that is those adopted after November 19, 1984.

Corporate Source Searchable

A new searchable Corporate Source File (file code CT) has been added to RECON. This allows expansion and selection of a Corporate Source without the code. The format for these commands is:

NAME	OPERAND	EXAMPLES
EXPAND	(file code)/ (index term)	X CT/ABERDEEN PROVING GROUND, MD.
	(file code)/ (index term) *(number preceding) *(number following)	X CT/ABERDEEN PROVING GROUND, MD. *7*10
	(file code)/ (alias term)	X CT/NASA, GODDARD SPACE FLIGHT CENTER, GREENBELT, MD
	(file code)/ (alias term) *(number preceding) *(number following)	X CT/NASA, GODDARD SPACE FLIGHT CENTER, GREENBELT, MD. *7*10
SELECT	(file code)/ (index term)	S CT/ABERDEEN PROVING GROUND, MD.
	reference numbers	S E07 S E07-E09

Register Your Contract

Register your NASA R&D contract with NASA for added services. NASA contractors, registered as such with NASA, are entitled to STAR, continuing bibliographies, and NASA's current awareness announcement notices (SCAN) free of charge. Unclassified unlimited-distribution NASA-funded reports in the "X" accession series, non-NASA items in the "N" series that carry an availability from NTIS, the National Technical Information Service, and access to NASA's online interactive information system (NASA/RECON) are available on a charge basis.

So get the help you deserve. Call or write today for registration forms:

NASA Scientific and Technical
Information Facility
P. O. Box 8757
BWI Airport, MD 21240
Phone: (301) 859-5300, x153

Training for NASA/RECON Evaluated

The Facility hosted a training session September 25 and 26, just before the Users Conference. Both Basic and Advanced sessions were given, 28 attended Basic, 7 attended Advanced.

Several new approaches were tried for these sessions.

- Attendees were assigned to tutorial groups based on their experience level, which was determined by their responses on a skills questionnaire completed at the beginning of the session. People with comparable levels of experience were grouped together.
- The amount of hands-on time in Basic was increased 47 percent over the amount scheduled in earlier sessions, from 295 minutes to 435 minutes. The Advanced group also had more hands-on time.
- The lectures were tightened up, and the lecture time decreased from 375 minutes to 290 minutes, to allow for the increased hands-on time. Major points were covered during the lectures, with details covered during the tutorials. Some new viewgraphs were produced for increased clarity.
- A detailed evaluation form was used, asking for evaluations of lectures, viewgraphs, tutorials, and the overall program. Those evaluations were studied to determine improvements needed in the training program.

Some of the thoughts expressed on the evaluation forms were:

- Liked the balance of lecture and hands-on time.
- People attending Basic preferred maximum of 4 per tutorial group and appreciated the tutor rotation.
- People attending Advanced felt groups of 2-3 were best, and preferred to stay with the same tutor for the whole session.

- Trainees appreciated having copies of the viewgraphs.
- A terminal with a projector or large monitor would be a valuable addition to the lectures.
- Brief searching guides (cheat sheets) are needed.

We have applied some of the comments and lessons we learned to the training given in California in early November.

Some of these enhancements are:

- Minor reorder of the presentation to be more logical.
- Some new and/or modified viewgraphs added for greater clarity.
- All lecture and tutorial materials have been bound into a workbook for ease of use.
- Exercises have been added for all tutorial sessions.
- The mix of lectures and hands-on time has stayed the same.
- The evaluation form has been shortened some, but it is still detailed since we want additional input for further improvements to the Training program.

Mars SP Published

ON MARS: EXPLORATION OF THE RED PLANET, 1958-1978, NASA SP-4212, has been published by the Scientific and Technical Information Branch and the NASA History Office. Written by independent authors Edward Ezell and Linda Ezell, this is a valuable history of the Viking orbiter-lander project. The complex interactions of people, organizations, and innovative technology are examined in the context of the evolution of unmanned space exploration.

Copies may be obtained for \$20.00 from the Superintendent of Documents U.S. Government Printing Office, Washington, D.C. 20402. The GPO Stock Number is 033-000-00869-4. It was announced in STAR 24 as N84-35248.

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Twenty Years of NASA/ESA Cooperation

Senior officials from NASA and the European Space Agency (ESA) met recently to review the progress achieved in the 20 years of collaboration in the exchange of publicly available scientific and technical information (STI) and to chart future steps in this joint endeavor.

This exchange has proven to be an outstanding success. It has given broad exposure to a large number of

scientific and technical reports that otherwise might have remained inaccessible and has made them available in both the United States and Europe. Over the years, the NASA/ESA relationship has evolved to fully reflect the objectives of both parties and to ensure that the cooperation remains effective and mutually beneficial.

The NASA system is managed by its Scientific and Technical Information Branch. The ESA system is managed by its Information Retrieval Service, installed at ESRIN (the former European Space Research Institute, which is now an ESA establishment located at Frascati, Italy).



NASA/ESA luncheon celebrates 20 years of STI cooperation: Van A. Wente, STIB Chief; Francis Roscian, ESA/ESRIN Head; Philip A. Thibideau, STIB International Activities Manager; Marino Saksida, ESA Information Retrieval Service Head; and John Sakss, NASA's International Affairs Division.

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Yvonne Turner at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

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1985

NASA STI-RECON Bulletin & Tech Info News

National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

JANUARY/FEBRUARY 1985

Report Number Authority File to be Established

The CENDI Group (NTIS, TIC Oak Ridge, DTIC, and NASA/STIB) is supporting the automation of a master report number authority file. NTIS has partially completed computer programming necessary to extract a machine-readable report number file from the NTIS data base and mounted the information onto a discreet retrieval system. This file will require extensive editing to become an authoritative file. However, once the editing has been done, the file can be used by all CENDI agencies, who now maintain their own files, mostly manual and frequently inconsistent.

The file will contain the edited report number formats for corporate sources issuing reports

processed by each of the four CENDI agencies. The file will initially be available as a publication which may be endorsed by the Special Libraries Association, and so be available as a general reference tool for the technical information community. The actual computerized file will be made available within a year to all CENDI agencies for retrieval and input with update.

By having CENDI agencies using this same data, report numbers formats can be consistent among all four agencies. Because the information will also be available in machine form, each agency will be in a position to offer the information as a reference tool in paper and online, for assistance in retrieval.

How Does NASA/RECON Work for You?

We have asked attendees at the first annual NASA/RECON Users Conference held last September to tell us what NASA/RECON does for them. We would like to present the same challenge to users who did not have the opportunity to attend the Conference.

How does NASA/RECON work for librarians and other intermediaries? Major developments are underway, and this feedback will assist us in bringing them along in the right direction.

A second challenge is to tell us how it works for the end user -- the scientist, en-

gineer, manager, and administrator. What are they getting out of the NASA information system? Please try to make these benefits explicit, where possible, in dollars and cents. Such benefits -- more rapid access, ability to zero in on half a dozen documents out of hundreds of thousands, or elimination of duplicative research -- should be quantifiable. Increases in R&D quality and productivity is another. All should result in some measurable benefits which only the user can state. Your help in finding these answers will contribute to our quest for system improvements.

Management Operations Group Formed

NASA/RECON Management Operations Working Group has been established to assist in the implementation of NASA/RECON improvements. If you have any suggestions or items of interest, you may want to discuss them with a member of the Working Group:

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Criss-Cross Directory Now Available

The Aerospace Division of the Special Libraries Association has issued a cross-reference listing of NASA report accession numbers and Department of Defense report accession numbers. The period covered is 1962-1978. It is of use to special librarians in the aerospace industry, and provides more rapid access to reports for scientists and engineers working for organizations having both NASA and DOD projects. Entitled The Criss-Cross Directory of NASA "N Numbers" and DOD "AD Numbers", the listing costs \$20.00.

Send your order to:

George Mandel
NASA Lewis Research Center
2100 Brookpark Road
Cleveland, OH 44135

The check should be made out to Aerospace Division/SLA.

New Guidelines for Document Availability

NMI 2230.1B entitled NASA Scientific and Technical Document Availability Authorization was issued December 24, 1984.

Its purpose is to establish policies, procedures, and responsibilities for the authorization process to assure appropriate distribution, bibliographic processing, and announcement of availability of NASA sponsored or authorized documents that contain NASA developed or supported scientific and technical information.

NASA's Scientific and Technical Information Branch is the responsible office, and is working with document originators in carrying out the NMI provisions. Questions may be directed to C. W. Hargrave, NASA STIB/NIT-4, telephone 202-453-2912 or FTS 453-2912.

Users Reference Manual To Be Reviewed

The first task that the NASA/RECON Management Operations Working Group has been asked to undertake is to critique and prepare a report on the just-issued NASA/RECON Users Reference Manual. Valerie Tucci has agreed to coordinate this report. The Manual will be reviewed as a self-contained reference book for users, and as one of the set of guides to be issued. These include, besides the Manual:

- A Primer (or User Introduction) for the beginner.
- Pocket Guides--one for the D collection and another for NALNET.
- Expert Users Handbook--compact and portable, perhaps pocket size.

It is planned to develop a closer coordination between the users guides and training material. Being considered is incorporating training materials into the guides and the guides into the training materials. A future development of users and training guides may be the preparation of videotapes. Projects are underway to put training and users materials online on NASA/RECON. Consideration will be given to putting them on cassettes for PC's or even -- although a little early yet -- on video disc. A NASA/RECON enhancement project now underway will include tutorial materials online.

Please send your comments and suggestions to:

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Air Products and Chemicals
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Allentown, PA 18105
(215) 481-7292

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POSTMASTER: If Undeliverable (Section 158
Postal Manual) Do Not Return

Tool for Managers Now Available

For several months, a new file entitled "Managers" has been available on NASA/RECON. "Managers" contains citations and abstracts selected from current additions to the data base that appear to be of interest to managers and administrators at Headquarters, the Centers, and on NASA contracts. If we are to continue making the file available, we need to know that it is being used. Also, if you have suggestions for topics that might be included, let us know.

If you haven't previously accessed "Managers", here is how you do it:

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Yvonne Turner at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, STIF.

(After logging on, if you have a dial-in terminal)

Command: BB space D
Q EX MANAGERS(NAHQ)
(Program will execute
in about 10 seconds)

(Completion of
execution indicated
by: END SEQUENCES
MANAGERS EXECUTION)

Command: D space 1 (first
item will be displayed)

D (second item will
be displayed)

D (third item will
be displayed)
Etc.

Comments on usage or suggestions for content should be directed to John Wilson, NASA STIB/NIT-2, telephone 202-453-2933 or FTS 453-2933.



National Aeronautics and
Space Administration

Scientific and Technical
Information Branch

STI-RECON Bulletin & Tech Info News

MARCH/APRIL/MAY 1985

ARIN Project Enters Implementation Phase

Study and development of Functional Specifications for the NASA Aerospace Research Information Network (ARIN) was completed late last year. Phase Two of the project began in December as plans were made for implementation.

Task Force Established

An ARIN Task Force was established at the STI Facility in December. The group is charged with coordinating activities of selecting and obtaining software, database conversion, and implementing a prototype of the cataloging and online catalog modules for demonstration at the Facility in September.

Prototype Planned

The goal is an operational demonstration in September, 1985 of the ARIN prototype cataloging and online catalog modules. Tasks to be accomplished during this phase include: identification, evaluation, and acquisition of the selected system; database conversion; and the Facility installation and demonstration of the ARIN prototype.

Mark Your Calendars

Plans are now underway for the NASA RECON Users Meeting 1985 to be held at the Twin Bridges Marriott Hotel, Washington, DC, September 19 & 20, 1985. Details will follow. If you need additional information before you receive details, feel free to contact John Wilson, NIT-2, (202) 453-2904 or Mary Huffer, STIF, (301) 621-0202.

Identification and Evaluation of Candidate Software Packages

The completed requirements study analyzed and matched the needs of NASA and NASA-affiliated libraries against available ILS packages on the market.

An evaluation subcommittee comprised of functional library personnel from several NASA libraries met to evaluate applicable candidate systems during January and February. Opportunity for subcommittee members to work on the systems was provided. Each of the systems was scored on a worksheet designed by the STI Facility staff. The results of the evaluation were the basis for the system selection recommendation.

Acquisition of the Selected System and Installation at the Facility

Based on the recommendation, NASA has initiated procurement of the selected system. Delivery and installation is expected at the Facility in early summer.

Demonstration of Prototype System

In September 1985, the vendor-supplied access catalog module of ARIN will be operational at the Facility. Draft user implementation and training manuals will be available for examination and discussion; the final form of these training and installation documents will incorporate changes dictated by problems encountered and resolved in the implementation and staff trials, making the system fully transportable to each Center library. A final schedule of Center implementation will finalize this stage of ARIN.

Novice RECON Now Available

The NASA/RECON tutorial is now on-line anytime during operations. It was developed primarily for beginners, but can also be used by experienced searchers as a refresher or for help with a particular aspect of RECON searching. Simply enter TUTOR, hit CR (or TRANSMIT), and follow instructions.

The tutorial may be easily entered into, paged through, forward and backwards, or exited. The following is a summary of the RECON Tutorial Commands. These commands may be used anytime during the tutorial session:

CR	to display the next screen
-	to display the previous screen
S	to go to the next subtopic
N	to go to the next main topic
M	to display the main menu
EXIT	to end the tutorial and return to your RECON search

After reading the introduction, or after asking for the MENU, one can select any of these topics by selecting the numeric code:

<u>Code</u>	<u>Topic</u>
0	Introduction
1	Beginning a Search
2	Searches
3	Displays
4	Set Manipulation
5	Status Checking
6	Offline Requests
7	Ending a Search
8	User Aids
9	Glossary

Another aspect of the tutorial is SAMPLES, showing examples of different types of searches. This can be entered at any time after you begin

your search, except during the tutorial, by entering SAMPLES.

Below is the menu and some of the text of the Author search sample:

ENTER: SAMPLE

IDENTIFIED BELOW ARE SEARCHES THAT MAY BE EXECUTED ON MOST RECON FILE COLLECTIONS:

<u>CODE</u>	<u>INDEX</u>
1 -----	SUBJECT TERM
2 -----	AUTHOR
3 -----	REPORT NUMBER
4 -----	CONTRACT NUMBER
5 -----	CORPORATE SOURCE
6 -----	CORPORATE SOURCE TEXT
7 -----	TEXT
8 -----	DCAF NUMBER

TO SEE AN EXAMPLE OF THESE SEARCHES CHOOSE THE ONE YOU ARE INTERESTED IN AND ENTER THE CODE AND CR. PRESS CR WITHOUT A COMMAND TO BYPASS EXAMPLES AND RETURN TO RECON. ADDITIONAL INFORMATION CAN BE FOUND WHILE USING RECON BY ENTERING A HELP COMMAND.

ENTER: 2

AUTHOR SEARCH

THE INDEX MNEMONIC (AU) IS VALID FOR ALL FILE COLLECTIONS EXCEPT F, L, AND M.

ENTER: EXPAND AU/COSEL, R.

REF	DESCRIPTOR	IP	OCC
E04	AU/COSDEN, I. H.---	N	16
E05	AU/COSE, D. A.----	N	1
E06	AU/COSEL, R.-----		0
E07	AU/COSEL, R. M.----	N	12
E08	AU/COSELL, L.-----	N	3
E09	AU/COSELL, .K.-----	N	1

ENTER: SELECT E7

14 12 12 AU/COSEL, R. M.

ENTER: DISPLAY 14/2

 DISPLAY 14/2/1
 77A15407 ISSUE 4 PAGE 520
 UNCLASSIFIED DOCUMENT
UTTL: LIGHTNING SIMULATION TEST OF COM
AUTH: A/REVEY, A.W. JR.; B/COSEL, R.M.;
 INSTITUTE OF TECHNOLOGY, MELBOURN
 RESEARCH INSTITUTE, MIAMI, FLA.)

ENTER: COMBINE 14+13

15 17 17 14+13

ENTER:

Another enhancement is the addition of
NO HELP and BEGINNER experience levels:

- N --- "NO HELP", the user will not
 receive the specific error
 message just "INVALID COMMAND-
 NO HELP SPECIFIED" will be
 displayed on the terminal.
- E --- "EXPERT", the user will re-
 ceive a short description of
 the error encountered.
- I --- "INTERMEDIATE", the user will
 receive the above information
 along with additional text
 describing the error.
- B --- "BEGINNER", the user will
 receive the intermediate
 message along with suggestions
 for possible corrections.

An expanded BEGIN format has been in-
stituted to allow searches to specify
file collection, experience level,
and password all in one step and by-
pass the multiple begin prompts, e.g.,
BEGIN BYPASS D/B/PASSWORD. The for-
mat is (command code) (file collection
code)/(experience level)/password.
More details on this are included in
the "Beginning a Search" part of the
tutorial.

Search Numeric Words on Book File

As of March 18, numeric words on the
NALNET Books File, File Collection F,
are text searchable. The terms 1979,
1984, 33RD, 747, etc., are contained
in the LT inverted file and may be
searched in the same manner as on
File Collection D. For example, if
you SELECT:

S TTL/SPACE 2000

you will have one hit: 83V27774.

If you SELECT:

S TTL/JANE *9 1984

you will get seven hits including
84V62817, "Jane's All The World's
Aircraft, 1984-1985."

Please experiment with this new capa-
bility and let us know what you think
about it.

Enhancing Contract Access

The Research and Development Con-
tract Search (R&DCS) file available
on NASA/RECON (K-10,000 series) is
being increasingly used by managers
and administrators concerned with
NASA's ongoing research program.

Through coordination with NASA
contract monitors, we are trying
to assure that all active R&D
contracts are included in the file.
Old contracts are not deleted,
giving the searcher the opportunity
to trace a history of contracts in
certain areas. Use in conjunction
with the Research and Technology
Objectives and Plans (RTOP's) file
(W-10,000 series), which contains
overview statements of funded pro-
jects, helps provide administrative
history.

If users know of contracts not in
the contracts file, please send
us descriptions of the project
and if they qualify, they will be
entered into the file. Descriptions
can be sent to NASA Headquarters/
NIT-4.

National Aeronautics and
Space Administration
Code NIT - 4
Washington, D.C.
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Increased Interest in Foreign Technology

Country of intellectual origin indexes have seen successfully tested in Aeronautical Engineering (NASA SP-7037) and Aerospace Medicine and Biology (NASA SP-7011). These will be included as regular features in these and three other publications: Earth Resources (NASA SP-7041), Technology for Large Space Systems (NASA SP-7046), and Management (NASA SP-7500).

By scanning these indexes, US researchers and engineers can learn of work done in other countries and use it to their own advantage. If users find the indexes helpful, or want to suggest improvements, we would be happy to hear about it. Contact John Wilson, NASA Headquarters, Code NIT-2, Washington, DC 20546, (202) 453-2904.

Regarding interest in foreign technology, Soviet Aeronautics was published March 18.

Sister volumes, Current European Aeronautics and Japanese Science and Technology, are now being developed at the STI Facility.

2000 NASA/RECON Users Estimated

NASA/RECON online bibliographical system has more than 400 active passwords issued for access via hardwire and dial-up terminals. While passwords are usually restricted to one site, several users may use one terminal, and more than one terminal may use the same password. A recent survey of NASA/RECON users indicates as high as 25 users for some passwords, where, for instance, library patrons are encouraged to access NASA/RECON themselves. The average is four to five. So there are probably at least 2,000 people accessing the system on a fairly regular basis.

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Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, STIF.

1985 NASA/RECON Users Conference in September

An exciting and informative NASA/RECON Users Conference, NASA/RECON clinic and training sessions are planned for the week of September 16-20, 1985, at the Twin Bridges Marriott, Washington, D.C. The five-day agenda includes something of interest for all NASA/RECON users.

NASA/RECON Users Conference

The NASA/RECON Users Conference, September 19th and 20th, completes the week with two days of sessions geared to enhance your knowledge of NASA/RECON.

Highlights of the Users Conference include:

- NASA/RECON hardware and software refresher and updates
- Users aids
- New technology
- New and updated files
- Special projects
- Added search features
- Plus, guest speaker:
Kathryn Thornton, *Astronaut*

A \$100 registration fee includes:

- Two-day Users Conference
- Meeting supplies
- Banquet (Thursday evening)
- Two luncheons
- Morning and afternoon coffee

Training Sessions

Two-day training sessions with emphasis on hands-on terminal experience are planned for Monday and Tuesday, September 16th and 17th. A \$50 registration fee includes:

- Two-day training sessions
- Training materials
- Two lunches
- Morning and afternoon coffee

NASA/RECON Clinic

An all day clinic on search techniques is offered *FREE*, September 18th, to all NASA/RECON users registered for the training sessions or the Users Conference. NASA/RECON search analysts will be available for informal and general group sessions and individual work and consultation sessions. Again, the emphasis is on a hands-on approach.

Information and registration forms have been sent to all NASA/RECON users. Get your registration in now.

For additional information, contact John Wilson, NIT-2 (202) 453-2904 or Mary Huffer, STI Facility, (301) 621-0202.

Expanded Document Ordering Service

The document ordering service has been expanded to provide greater access to the vast collection of NASA sponsored and non-NASA sponsored documents available at the NASA STI Facility.

Documents now may be ordered in paper copy or microfiche form online through the NASA/RECON ORDER command or offline by telephone or letter request to the NASA STI Facility. Expanded document services include:

- *NASA-sponsored* documents in the "A", "N" and "X" series available to registered NASA contractors, U.S. Government agencies, and U.S. Government contractors.
- *Non-NASA sponsored* documents in the "A" and "N" series available to registered NASA contractors.

Special Publications

Brief descriptions of Special Publications recently published by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20420 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The appropriate price and order number are given with the description.

The Cosmic History of the Biogenic Elements and Compounds (NASA SP-476), published in conjunction with the Ames Research Center, is a report of the Study Group on the Cosmic History of the Biogenic Elements and Compounds. Scientists from diverse disciplines consider the physical and chemical development of these elements, essential to all life, from their origins in stars to the building blocks of planets.

Price: \$3.50

GPO Stock Number: 033-000-00948-8

On the Frontier: Flight Research at Dryden, 1946-1981 (NASA SP-4303) was written by Richard P. Hallion. This illustrated volume emphasizes flight testing, flight research aircraft, and interaction with the military services within the context of an emerging supersonic flight technology from 1944 to 1959. This book shows how Dryden's many activities, beginning with the operation of experimental aircraft in the upper atmosphere, supported the space flight program.

Price: \$15.00

GPO Stock Number: 033-000-00893-7

The Impact of Science on Society (NASA SP-482) presents a series of public lectures given at the College of William and Mary as part of NASA's 25th anniversary in 1983. This book considers how science and technology have affected society from the time of the first significant scientific invention to that of expected future scientific advances.

The lectures were given by British historian James Burke, ABC-TV science editor and reporter Jules Bergman, and scientist and science fiction writer Isaac Asimov.

Price: \$4.50

GPO Stock Number: 033-000-00943-7

Supersonic Cruise Technology (NASA SP-472), published in conjunction with the Office of Aeronautics and Space Technology, covers the history and status of supersonic cruise research. Critical technology issues and research findings are presented in non-technical language. The author, F. Edward McLean, was involved in this research for 30 years at Langley Research Center.

Price: \$6.50

GPO Stock Number: 033-000-00844-5

Planetary Geology in the 1980s (NASA SP-467), published in conjunction with the Office of Space Science and Applications, discusses the geologic aspects of solar system studies by showing how geologic data are related to space science in general and by defining the goals of planetary geology and the methods of meeting these goals. The report is restricted to the experiments and observations made through unmanned missions. It was authored by Joseph Veverka of Cornell University and is largely based on the reporting of the Planetary Geology Working Group.

Price: \$19.00

NTIS Order Number: 85N23457

Planetary Cartography in the Next Decade (NASA SP-475), published in conjunction with the Office of Space Science and Applications, assesses cartographic products required to support space scientists and future planetary exploration. This book includes samples of three major types of maps: controlled photomosaics, shaded relief maps, and topographic contour maps.

It was authored by the Planetary Cartography Working Group chaired by Robert G. Strom of the University of Arizona.

Price: \$11.50.

NTIS Order Number: 85N22323

College Online Courses to be Tested

A training grant is being issued to Southern University in Baton Rouge, and University of Southwestern Louisiana to complete development and to initiate testing and evaluation of a set of transportable, college-level courses to educate science and engineering students in the effective use of automated scientific and technical information storage and retrieval systems, and, in particular, in the use of the NASA/RECON system. This grant includes a comprehensive plan for the widespread distribution of the developed educational programs to colleges and universities throughout the United States.

Concentrated hands-on training will be given in six regional seminars. These seminars will be held at Southern University, University of Southwestern Louisiana, and at the historically black colleges and universities that apply for access to NASA/RECON. Representatives of other historically black colleges and universities will be invited to the seminars to learn to use NASA/RECON. Those attending will carry back to their own institutions a wide range of instruction materials which will then serve as a basis on which to initiate further training at their own and other institutions.

A full-semester course in the use of the NASA/RECON online bibliographic database will be instituted, probably at Southern University, or the University of Southwestern Louisiana, or both, with access by students to terminals for online training.

Book Data Now in CFPS

The Combined File Postings Statistics (CFPS) now provides data on the use of NASA Thesaurus subject terms for NASA-held books in the NALNET book file. CFPS tabulates the number of postings to each Thesaurus term in the entire NASA/RECON database from 1968 on. The addition of the NALNET data makes CFPS a more useful search aid. The NALNET data first appeared in the July 1985 issue of CFPS.

Personnel Changes

Charles T. Simonds has been designated Head, NIT-2, Systems and Retrieval Section, NASA Scientific and Technical Information Branch. NIT-2 is responsible for software and hardware for NASA STI, and for database products and services, including NASA/RECON.

Former NIT-2 Head, Buford L. Smith, has become Chief, NASA Headquarters ADP and Technical Service Branch.

NASA/RECON Update

DISPLAY

A DISPLAY in FORMAT 4 fills the video screen with accession numbers and other elements without a separation or a line break. Now it is possible to insert a line break by adding a final semicolon in a SPECIFY FORMAT command, e.g., SF ACC, UTL;. Two semicolons yields a two-line break; use up to five semicolons for a five-line break.

PAGE

To page forward it is no longer required to enter PAGE or P. Simply hit the XMIT or RETURN when a display requires more than one page or MORE appears at the bottom of the screen.

NASA/RECON Hourly Charges to Increase

New charges for NASA/RECON go into effect October 1, 1985.

Administrative charge	\$60.00/yr
Connect charge	24.00/hr
Telenet connect charge	13.00/hr
Training	50.00/person
Citation charge05/citation

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SCAN User Charge

July 1, 1985, NASA instituted a charge for new users of its *Selected Current Aerospace Notices (SCAN)*. An interim price schedule has been established:

One set
(all SCAN topics—186) \$350.00/yr
Extra sets
(all SCAN topics—186) 175.00/yr
Selected SCAN topics
each topic 50.00/yr
Selected SCAN topics
extra copy per topic 25.00/yr

The same charges go into effect for current SCAN users on October 1, 1985. This interim price schedule is subject to change after December 31, 1985.

There is no charge for the NASA/SCAN service to organizations registered with NASA as NASA R&D contractors or university libraries. For additional information contact C.W. Hargrave, NIT-4 (202) 453-2904 or Joe Gignac, STI Facility (301) 621-0160.

RMS Associates Wins STI Facility Contract

RMS Associates, Landover, Maryland has been awarded the contract for the operation and maintenance of the NASA Scientific and Technical Information (STI) Facility. The contract commenced July 1, 1985.

NASA STI products and services will continue as currently scheduled.

Aerospace Database on DIALOG

The initial section of the Aerospace Database is now accessible through DIALOG as File 108. It contains over 75,000 STAR and IAA items from 1984 through current. The complete file back through the early 1960's of over 1.3 million items is expected to be up by late August.

Mead Data Central has also signed a contract to make the Aerospace Database available. It is expected that 1980 through current will be up by late summer.

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STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

SEPTEMBER/OCTOBER/NOVEMBER 1985

Highlights of Second NASA/RECON Users Conference

Nearly 150 people attended the second NASA/RECON Users Conference at the Marriott Twin Bridges hotel in Washington D.C. on September 19 and 20. Sponsored by the NASA Scientific and Technical Information Branch, the conference was a great success and lived up to its aim of informing users how they could get the most from NASA/RECON.

In keeping with the conference theme of "making RECON work for you", users were updated on new and improved RECON features and plans for new databases. Announcement that a start has been made on the long-awaited NACA file was greeted enthusiastically. Especially popular were the tutorials aimed at assisting users to zero in on the wealth of information contained in the NASA STI database.

The year-old NASA/RECON Management Operations Working Group, representing a cross-section of users, addressed in a panel discussion different approaches to working with RECON. The group was established to work with other users and to assist STIB in planning major improvements in NASA/RECON.

Many users took the opportunity to attend the NASA/RECON clinic on the Wednesday preceding the conference. Expert RECON searchers were on hand to help resolve individual problems. The eight terminals provided for demonstration and hands-on practice were in use throughout the week. A highlight of the two-day training session on Monday and Tuesday was the introduction of a projection monitor which enables a large number of people to watch a live terminal demonstration.

Julie Virgo, president-elect of the American Society for Information Science, drew parallels between the challenges facing ASIS and those facing NASA/RECON users. Both need to embrace and capitalize on the changing environment. As access to space becomes commercialized, more people will need access to the NASA STI database and space related information.

Ike Gillam, Assistant Administrator for Commercial Programs, explained how space activities now embrace both people and companies who were not traditionally associated with space. Today's thrust is towards exploitation, not exploration. As information professionals, we must meet the challenges of serving the needs of this expanding community. And finally, astronaut Kathryn Thornton relayed to us in person the excitement of being part of the space age.

NASA/RECON Training Program

The NASA/RECON training program for 1985/1986 includes five two-day basic training sessions and three one-day advanced training sessions. The first basic training session was held on September 16 & 17 in conjunction with the NASA/RECON Users Conference; the first advanced training session was held on October 17 at the NASA STI Facility. The ongoing hot-line telephone service will continue. This service assists the user with specific, on-the-spot, search problems on an as-needed basis. The training sessions, to be held in-house at the NASA STI Facility, are scheduled as follows:

Basic Training	Advanced Training
November 19 & 20	February 13
January 22 & 23	April 17
March 18 & 19	
May 20 & 21	

NASA/RECON Hot-Lines

(301) 621-0300 (hardware and communications)
(301) 621-0157 (searching)

For more information, contact Janice Freeman at the NASA STI Facility (301) 621-0101.

The J. Title is

Search Hints

ISSN is directly searchable

The data elements Journal Title and ISSN are embedded in the IAA Notes Field. Beginning with accessions in mid-1983 ~~these fields are~~ text searchable. Through a combination of a search on each of these fields and the Specify Format option it is possible to produce a listing of titles by the Journal Title in the IAA Notes Field. A sample search follows.

Journal Title

Search the Journal Title field using the mnemonic JTL. Search the exact title in single quotes as a phrase search, or expand the key words of the title and select the appropriate E number after each expansion. Finally combine all sets.

ENTER: S JTL/AEROSPACE AMERICA'

1 170 JTL/AEROSPACE * + 1 AMERICA

ENTER: X JTL/AEROSPACE*1*

EXPAND JTL/AEROSPACE

REF	DESCRIPTOR	TP	OCC	TS
E01	JTL/AEROS	B	1	0
E02	-JTL/AEROSPACE	B	464	0
E03	JTL/AEROSPATIALE	B	60	0
E24	JTL/AMBIENT	B	1	0
E25	JTL/AMERICA	B	585	0
E26	JTL/AMERICAN	B	405	0

ENTER: S E2

2 464 464 JTL/AEROSPACE

ENTER: S E25

3 585 585 JTL/AEROSPACE AMERICA

ENTER: C 2*3

4 170 340 2*3

ENTER: SF A,U;NOT

FORMAT-DEFINITION ACCEPTED.

ENTER: D 6/4

DISPLAY 06/4/1-11 OF 110

85A42897 UTTL: Supercruise for a STOL dogfighter
Aerospace America (ISSN 0740-722X), vol. 23, Aug. 1985,
p. 72-75.

85A42896 UTTL: Avionics unreliability turns fighters into shop
queens

Aerospace America (ISSN 0740-722X), vol. 23, Aug. 1985,
p. 68-70.

85A42895 UTTL: Avtek 400 - Light is right
Aerospace America (ISSN 0740-722X), vol. 23, Aug. 1985,
p. 62-64, 66.

85A42894 UTTL: Putting the 'super' in supercomputers
Aerospace America (ISSN 0740-722X), vol. 23, Aug. 1985,
p. 56-58, 60.

NOTE: A listing of the periodicals scanned by AIAA
is available in the *International Aerospace Abstracts
Annual Index, Part One*.

ISSN

Search the ISSN field using the mnemonic ISN. Select the exact number or expand the number. Select the appropriate E number.

ENTER: S ISN/ISSN 0740-722X

5 170 170 ISN/ISSN 0740-722X

ENTER: X ISN/ISSN 0740-722X*1

EXPAND ISN/ISSN 0740-722X

REF	DESCRIPTOR	TP	OCC	TS
E01	ISN/ISSN 0740-6797	N	6	0
E02	-ISN/ISSN 0740-722X	N	170	0
E03	ISN/ISSN 0740-7467	N	3	0
E04	ISN/ISSN 0740-7475	N	3	0

ENTER: S E2

6 170 170 ISN/ISSN 0740-722X

Corporate Source File

The corporate source file is now searchable online. The mnemonic is CT. The user can EXPAND and SELECT a corporate source using the name or an alias. A sample search follows.

ENTER: X CT/ABERDEEN PROVING GROUND, MD.*1*1

EXPAND CT/ABERDEEN PROVING GROUND

REF	DESCRIPTOR	OCC	TS
E01	CT/ABCOR, INC., WILMINGTON, MASS.	22	0
E02	-CT/ABERDEEN PROVING GROUND, MD.	304	0
E03	CT/ABERDEEN RESEARCH AND DEVELOPMENT CENTER, ABERDEEN PROVING GROUND, MD.	35	0

ENTER: S E2

1 304 304 CO/AA180509

ENTER: X CT/NASA. GODDARD*1*3

EXPAND CT/NASA. GODDARD

REF	DESCRIPTOR	OCC	TS
E01	CT/NASA. FLIGHT RESEARCH CENTER, EDWARDS, CALIF.	784	0
E02	-CT/NASA. GODDARD	0	0
E03	CT/NASA. GODDARD INST. FOR SPACE STUDIES, NEW YORK	648	0
E04	CT/NASA. GODDARD SPACE FLIGHT CENTER, ALBUQUERQUE, N. MEX.	11	0
E05	CT/NASA. GODDARD SPACE FLIGHT CENTER, GREENBELT, MD.	17842	0

ENTER: S E3

2 648 648 CO/NC789443

NOTE: Corporate Source Authority List (CSAL) will
be available to users *only* on request. A notice was
sent to all recipients with the last quarterly issue.
To receive the CSAL, return the notice to the NASA
STI Facility, or contact Tom Hanson (301) 621-0160.

IAA Notes Field

Enter SS to display the sets created so far. Enter the Specify Format option. The mnemonic for the Notes Field is NOT. Display a set in format 4.

ENTER: SS

SET	REC.	OCC.	DESCRIPTION OF SET
1	170	170	JTL/AEROSPACE * + 1 AME
2	464	464	JTL/AEROSPACE
3	585	585	JTL/AMERICA
4	170	340	2*3
5	170	170	ISN/ISSN 0740-722X
6	170	170	ISN/ISSN 0740-722X

Note: Sets 1, 4, 5 and 6 are identical.

New Publications

Brief descriptions of new publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20420 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

Search for the Universal Ancestors (NASA SP-477).

A multidisciplinary approach is taken to the study of the origins of life. Partial answers are given to many questions about organic chemical evolution and the origins of life. Gaps in understanding the transition from the nonliving to the living are discussed.

Price: \$3.75 85N32777

GPO Stock Number: 033-000-009-3-4

Living Aloft: Human Requirements for Extended Spaceflight (NASA SP-483).

Human performance capabilities, psychological well being, and social organization are examined as they relate to extended spaceflight. Suggestions are offered for further research to ease the Earth to space transition. Variables assessed include crew size, crew diversity, and mission duration.

Price: \$14.00 85N32772

GPO Stock Number: 033-000-00949-6

The Global Sulfur Cycle (NASA TM-87570).

Aspects of the sulfur cycle through the living and chemical species that inhabit the surface of the Earth, examined by the Planetary Biology Microbial Ecology's 1984 Summer Research Program, are discussed. Relationships between the global sulfur cycle, the early evolution of the Earth and the biosphere, and current processes that affect global habitability are stressed. Individual abstracts for separate areas of research presented are available on NASA/RECON. See 85N32710-85N32748.

Price: \$25.00 85N32710

NTIS Order Number: 85N32710

Far Travelers: The Exploring Machines (NASA SP-480).

This book tells the story behind NASA's lunar and planetary exploration program. This includes an account of the development of unmanned spacecraft and their missions and of the outstanding engineering and scientific achievements of the era.

Price: \$17.00

GPO Stock Number: 033-000-00957-7

The Evolution of Complex and Higher Organisms (NASA SP-478).

The relationships between evolutionary biology and events in space are examined. The findings are then extended to the study of the biogeography of Earth, life on Earth, and extraterrestrial life.

Price: \$8.50 85N32708

GPO Stock Number: 033-000-00951-8

Quest for Performance: The Evolution of Modern Aircraft (NASA SP-468).

Subsonic aircraft configuration evolution and associated aerodynamics are traced from the beginning of World War I to the highly useful machine of today. Innovative aircraft designs which shaped the course of aeronautical development are described.

Price: \$26.00 85N32089

GPO Stock Number: 033-000-00951-8

Model Research: The National Advisory Committee for Aeronautics, 1915-1958 (NASA SP-4103).

This institutional history traces the birth and evolution of NACA and analyzes such recurrent themes as the roles of science and engineering, the influence of politics on technology, the contributions of key individuals, the nature of the research process, and the relations between military and civilian research programs, and publications. (2 volumes)

Price: \$26.00

GPO Stock Number: 033-000-00-894-5

USSR Space Life Sciences Digest (NASA CR-3922).

This first issue of the bimonthly digest of USSR Space Life Sciences includes abstracts for 49 Soviet periodical articles in 19 areas of aerospace medicine and space biology published in Russian during the first quarter of 1985. In addition, translated introductions and table of contents for nine Russian books on topics related to NASA's life science concerns are presented. This initial issue concentrates on aerospace medicine and space biology.

Price: \$11.50 85N32709

NTIS Order Number: 85N32709

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Space Administration
Code NIT-4
Washington, D.C.
20546

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Postal Manual) Do Not Return

New Thesaurus Terms

Subject terms added to the NASA Thesaurus from January through July 1985 are listed. These terms have been incorporated into the 1985 edition of the NASA Thesaurus scheduled for release in December 1985. The terms are also available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ASTRO MISSIONS
AUTONOMOUS NAVIGATION
AVIATION PSYCHOLOGY
BEND TESTS
CAPACITANCE-VOLTAGE CHARACTERISTICS
CARRIER LIFETIME
CHARGE INJECTION DEVICES
COLOR-MAGNITUDE DIAGRAM
COMMERCE LAB
COMPUTER AIDED TOMOGRAPHY
COOL STARS
DAMKOHLER NUMBER
DISTRIBUTED FEEDBACK LASERS
DOUBLE STARS
F-20 AIRCRAFT
GRAVITROPISM
GREGORIAN ANTENNAS
HARMONIC CONTROL
HERMES MANNED SPACEPLANE
HIGH ELECTRON MOBILITY
HOOP COLUMN ANTENNAS
INDONESIAN SPACE PROGRAM
INFRARED PHOTOMETRY
INJECTION LOCKING
INTERFERENCE IMMUNITY
ITALIAN SPACE PROGRAM
JOINT EUROPEAN TORUS
MANY ELECTRON EFFECTS
MISSING MASS (ASTROPHYSICS)
NATIONAL AIRSPACE SYSTEM
NITROUS ACID
ORBITAL SPACE TESTS
PAYLOAD INTEGRATION
PHOTOACOUSTIC MICROSCOPY
PHOTOPHORESIS
PILOT INDUCED OSCILLATION
POSEIDON SATELLITE
POSITION SENSING
QUANTUM WELLS
SAGNAC EFFECT
SAUDI ARABIAN SPACE PROGRAM
SHUTTLE IMAGING RADAR
SINGLE EVENTS UPSETS
SOLID MECHANICS

SOVIET SATELLITES
SPACE ADAPTATION SYNDROME
SPACE INFRARED TELESCOPE FACILITY
SPACE PSYCHOLOGY
SPACE TECHNOLOGY EXPERIMENT
SPACECRAFT TEMPERATURE
SPORTS MEDICINE
STATE ESTIMATION
STELLAR ORBITS
STELLAR PHYSICS
STORM SURGES
SUBDUCTION (GEOLOGY)
SUPERCRITICAL FLUIDS
THREE DIMENSIONAL BODIES
UK SPACE PROGRAM
URANUS SATELLITES
VACUUM ARC SWITCHES
VOLUMETRIC EFFICIENCY
WORKSTATIONS
X RAY BINARIES
X-29 AIRCRAFT
ZOOM LENSES

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, NASA STI Facility.

ESA and NASA Officials Meet at NASA STI Facility

A recent visit by Ms. Irene Mader of ESA/IRS to NASA Headquarters, the NASA STI Facility, and AIAA was rated an overall success by all. The objectives of Ms. Mader's visit were to review existing procedures, to address any new procedural or policy changes, and to enhance dialog between NASA and ESA in the varied areas of information processing and dissemination.

NASA/RECON Primer

By popular demand, the NASA STI Facility is developing a *NASA/RECON Primer* geared specifically to the new or occasional user. The format will be such as to encourage its use during strategy formulation and while enacting a search on the system.

Not intended to be a self-tutorial, the Primer will provide a handy reference on more than just searching concepts. This will distinguish it from the recently released *NASA/RECON Basic Reference Guide*.

The Primer will also cover some of the more frequent communications problems users experience when signing on and off of NASA/RECON. As an added feature, it is scheduled to depict set-ups for some of the most popular terminals operating in the NASA environment.

Charts and illustrations will comprise a major portion of the Primer. The Facility proposes to show a Database File Directory, and the Search and Specify Format Mnemonics for File Collection D. The mechanics of boolean logic and range searching will also be graphically represented.

Another section of the Primer will briefly address the logic behind developing a search strategy. It will also cover the key points of good free text searching. The major emphasis however, will be how to put RECON commands together in a logical order.

A section will be devoted to the ORDER command. Only those users who have established an order account with the Facility through their library or accounts department are eligible to use the ORDER command.

No primer would be complete without a list of key contacts and phone numbers related to communications and retrieval assistance for NASA/RECON.

Look for the Primer to be distributed sometime early in 1986. Your comments are welcomed, contact Dian Marincola at the NASA STI Facility (301) 621-0154.

New Name for STI-RECON Bulletin

Due to interest recently expressed at the NASA STI Managers Conference we are initiating a campaign to rename the STI-RECON Bulletin. Your ideas are needed. The new name should reflect the purpose of the Bulletin, which is to inform users of NASA's STI products, services, and activities. Forward suggestions and comments to Jackie Streeks, NASA STI Facility, Mail Code 500.

CENDI Publishes Revised COSATI Guidelines

Guidelines for Descriptive Cataloging of Reports, published by the CENDI Cataloging Committee, is a revision of the COSATI standard for descriptive cataloging of technical reports. This revision was undertaken as part of the cooperative effort to improve the productivity of Federal R&D through efficient and responsible technical information programs. The Federal agencies involved in this cooperative effort are the U.S. Department of Commerce, the U.S. Department of Energy, the National Aeronautics and Space Administration, and the U.S. Department of Defense.

The intent of the revised COSATI guidelines is to standardize descriptive cataloging entries. The rules presented govern the form of 17 essential cataloging data elements for technical reports. These standardized guidelines facilitate the exchange of bibliographic information among the Federal information processing agencies. For more information contact Mike Streeks at the NASA STI Facility (301) 621-0112.

Price: HC \$16.95 MF \$5.95

Available from the National Technical Information Service (NTIS), Springfield, Va. 22161.

Stored Search Capabilities

Current Awareness Online

—submitted by David Steere

Each month a search is stored in the ID43 library and tagged with the name of the previous month, i.e., STOREOCT, STORENOV, etc. These stored searches limit sets to the citations added to NASA/RECON during the named month. By executing any of these stored searches it is possible to create personalized current awareness searches online. To get a listing of the stored searches in the ID 43 library:

ENTER:Q MEMBER(ID43)

A sample search follows.

It is most effective to LIMIT ALL the search or LIMIT a specific set to the current year. After the search is complete KEEP the desired set in set 99 and EXECUTE the stored search.

ENTER:LA 85

LIMIT-ALL ACCEPTED 85

ENTER:S HALLEY'S COMET

1L 153 153 ST/HALLEY'S COMET

ENTER:S COMET TAILS

2L 43 43 ST/COMET TAILS

ENTER:C 1+2

3L 177 177 1+2

ENTER:K 3

KEEP 3

ENTER:Q EXECUTE STOREOCT(ID43)

STOREOCT EXECUTION STARTS

END SEQUENCE STOREOCT EXECUTION

ENTER:ENTER:SS

SET REC.	OCC.	DESCRIPTION OF SET
1L 153	153	ST/HALLEY'S COMET
2L 43	43	ST/COMET TAILS
3L 177	177	1+2
4L 2	2	199/85/K/10847-10891
5L 0		199/85/X/76531-77317
6L 0		199/85/X/10384-10392
7L 7	7	199/85/A/43293-47054
8L 0		199/85/N/74183-74577
9L 3	3	199/85/N/33104-35151
10L 0		199/85/V/21411-22002

This search has yielded 2 citations in the K series, 7 in the A series, and 3 in the N series. COMBINE the sets created by the stored search to create a set of the most recent additions to the database on the subject of interest.

ENTER:C 4-10/+

11L 12 12 4+5+6+7+8+9+10

Specify Format Options

—submitted by Carol Sterkin

The capability to specify a desired format for display and printing of NASA/RECON citations is a unique feature of NASA/RECON. In combination with the Stored Search capability, useful Specify Format Options can be stored for instant availability and repeated use. Store as many Specify Format Options as desired as long as each is stored with a unique name

or tag containing eight or less characters. A sample Specify Format Option is stored and then executed on set 11L of the previous search.

ENTER:QUERY CREATE

BEGIN SEQUENCE CREATION

ENTER:SF ACC,UTL,AU,RN,NOT;

FORMAT-DEFINITION ACCEPTED

ENTER:QUERY SAVE SFACCJMS

SEQUENCE SFACCJMS SAVED IN LIBRARY

ENTER:Q EXECUTE SFACCJMS

SFACCJMS EXECUTION STARTS

SFACCJMS: SF ACC,UTL,AU,RN,NOT;

FORMAT-DEFINITION ACCEPTED.

END SEQUENCE SFACCJMS EXECUTION

ENTER:D 11/4

DISPLAY 11/4/1-6 OF 12

85A46709 UTTL: Light variations of Periodic Comet Halley beyond 7 AU AUTH: A/SEKANINA, Z. Astronomy and Astrophysics (ISSN 0004-6361), vol. 148, no. 2, July 1985, p. 299-308. NASA-supported research.

85A46675 UTTL: Predictions of the hydrogen Lyman alpha coma of Comet Halley AUTH: A/MEIER, R.R.; B/KELLER, H.U. Icarus (ISSN 0019-1035), vol. 62, June 1985, p. 521-537.

Now let's try a variation on this capability. Store a Specify Format Option with the author in the first position. Then sort set 11L on AU, and execute the stored search. Display the sorted set in Format 4 to obtain a listing alphabetized by author.

ENTER:QUERY CREATE

BEGIN SEQUENCE CREATION

ENTER:SF AU;ACC,FST,MUR,UTL,RN,NOT;

FORMAT-DEFINITION ACCEPTED.

ENTER:QUERY SAVE SFAUTJMS

SEQUENCE SFAUTJMS SAVED IN LIBRARY

ENTER:SORT 11/AU

12 12 12 SORT 011/AU /

ENTER:Q EXECUTE SFAUTJMS

SFAUTJMS EXECUTION STARTS

SFAUTJMS: SFAU;ACC,FST,MUR,UTL,RN,NOT;

FORMAT-DEFINITION ACCEPTED.

END SEQUENCE SFAUTJMS EXECUTION

ENTER:ENTER:D 12/4

DISPLAY 12/4/1-5 OF 12

AUTH: A/MEIER, R.R.; B/KELLER, H.U.

85A46675 UTTL: Predictions of the hydrogen Lyman alpha coma of Comet Halley Icarus (ISSN 0019-1035), vol. 62, June 1985, p. 521-537.

AUTH: A/SEKANINA, Z.

85A46709 * UTTL: Light variations of Periodic Comet Halley beyond 7 AU Astronomy and Astrophysics (ISSN 0004-6361), vol. 148, no. 2, July 1985, p. 299-308. NASA-supported research.

AUTH: A/YATSKIV, Y.S.; B/CHURYUMOV, K.I.

85N33138 # UTTL: Program for observations of Halley's comet

Several such formats have been stored at JPL in the ID16 library. These formats include the title and other necessary bibliographic information. Two of these formats are designated FORMATAU and FORMATCO. Any NASA/RECON user can use either of these stored searches. To execute the stored searches:

ENTER:QUERY EXEC FORMATAU(ID16)

or QUERY EXEC FORMATCO(ID16)

Key Contacts at the NASA STI Facility

For assistance in matters relating to the varied aspects of NASA/RECON contact any of the following key personnel at the NASA STI Facility, P.O. Box 8757, BWI Airport, MD. 21240.

General Manager
Robert B. Johnson
(301) 621-0200

Manager Product Quality/RECON Services
Janice Freeman
(301) 621-0101

Supervisor RECON Services/Training
Dian A. Marincola
(301) 621-0154

NASA/RECON Hot-Lines
Retrieval Assistance
(301) 859-5300 (Baltimore)
ext. 156 or 157

Edna Fleek
(301) 621-0157

Connect Assistance
Mike Moriarty
(301) 621-0300

Accounting
Mary Jo Minnick
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Bulletin Editor
Jacqueline M. Streeks
(301) 621-0105

User Registration
Marion Leiby
(301) 621-0153

Document Distribution
Dorothy Corbitt
(301) 621-0147

Document Evaluation
Philip N. French
(301) 621-0111

Old File "Thesaurus" Available

The Subject Authority List for the alternate database (old file) has been reprinted. More like the Combined File Postings Statistics than the NASA Thesaurus, the Subject Authority List was originally published in 1975 and lists valid terms and postings for the G File. A limited number of copies are available by contacting Ron Buchan, Lexicographer at the NASA STI Facility (301) 621-0103.

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in November are listed. These are the first terms added to the Thesaurus since the cut-off for the 1985 edition (June 30, 1985). These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AIR DATA SYSTEMS
CERAMIC FIBERS
CYLINDRICAL COORDINATES
END EFFECTORS
GRADIOMETERS
RT MAGNETOMETERS
GRAVITY GRADIOMETERS
IMAGING SPECTROMETERS

INTERFERENCE FIT
IRREGULAR GALAXIES
MALAYSIA
SRI LANKA
TELECONNECTIONS (METEOROLOGY)

ILS Bibliography Available

A 72 page Integrated Library Systems Bibliography prepared at the NASA STI Facility is available to NASA/RECON users upon request. The bibliography, compiled by Ronald L. Buchan, Lexicographer, is an alphabetical listing by author, interspersed with subject entries by systems and functions. For your copy, contact Ron Buchan at the NASA STI Facility (301) 621-0103.

New RECON Services Supervisor

We are pleased to announce that Dian A. Marincola has joined the NASA STI Facility staff as Supervisor of RECON Services. She comes to us from Informatics General Corporation where she was employed as a Legal Services Manager. Contact Dian at (301) 621-0154 to register for both the basic and advanced NASA/RECON training sessions.

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New Publications

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A Spacefaring People: Perspectives on Early Spaceflight (NASA SP-4405).

This book presents lectures on the early years of spaceflight given at Yale University in 1981. The essays include perspectives from history, political science, journalism, politics, science, and literature. Topic areas covered include: satellite and politics, the evolution of the U.S. civilian space program, space activities in the Soviet Union, Japan, and the Peoples Republic of China, and the rationale for space exploration. Individual abstracts are available on NASA/RECON. See 85N35142 to 85N35150.

Price: \$3.50

GPO Stock No.: 033-000-00933-0

Galileo: Exploration of Jupiter's System (NASA SP-479).

This book presents the scientific objectives of the Galileo mission in the jovian system. The history of the project, current knowledge of the system, and the objectives of the interrelated experiments are discussed. Details on the mission design, the spacecraft, and the instruments are included.

Price: \$12.00

GPO Stock No.: 033-000-00947-0

Corrections

In the third section down the center column of page 2-21 of the NASA/RECON User's Reference Manual (labeled "User Action") the proper responses for full and half duplex are reversed. Section should read:

(CR);(CR) for half duplex

(CR)(CR) for full duplex

On page 2 of the last issue of the STI-RECON Bulletin we stated "Journal Title and ISSN...fields are text searchable." Only the Journal Title is text searchable, and the ISSN field is a directly searchable field. Also, the third set in the first search should read:

3 585 585 JTL/AMERICA

RECON Bulletin and STI News is distributed to established users to keep them informed about NASA's scientific and technical information products and services.

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NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

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1986



National Aeronautics and
Space Administration

STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

JANUARY 1986

Halley's Comet on RECON

A simple subject term and text search of NASA/RECON was recently conducted to determine how the database reflects the current interest in Halley's Comet. File Collections D and F were searched separately. File Collection D was limited to the A and N series. The two searches yielded a combined total of 704 citations related to Halley's Comet. The final set of each search was limited to the accession years 1984 to 1986. The limited sets contained 238 citations in File Collection D and 28 in File Collection F. Approximately 34% of the citations related to Halley's Comet were added to the database in the last two years. The search strategy and the sets created during the searches are given below.

File Collection D

ENTER:LA /N,A
LIMIT-ALL ACCEPTED /N,A
ENTER:X TS/HALLEY'S COMET
EXPAND TS/HALLEY'S COMET

REF	DESCRIPTOR	TP	OCC	TS
R01	-ST/HALLEY'S COMET-----	N	589	5
R02	BT/CELESTIAL BODIES-----	N	1205	218
R03	BT/COMETS-----	N	2969	23
R04	BT/SOLAR SYSTEM-----	N	3994	37
R05	BT/GIOTTO MISSION-----	N	131	6
R06	RT/VEGA PROJECT-----	N	54	6

ENTER:S R1-R3,R5-R6
1L 3803 3803 R1-R3,R5-R6 ST/HALLEY'S COMET

ENTER:S TX/HALLEY:
2L 579 824 TX/HALLEY
ROOT/HALLEY

ENTER:S ATL/HALLEY:
3L 339 357 ATL/HALLEY
ROOT/HALLEY

ENTER:S AX/HALLEY:
4L 572 815 AX/HALLEY
ROOT/HALLEY

ENTER:S UTP/'HALLEY'S COMET'
5L 114 114 UTP/HALLEY *+1 S *+1 COMET

ENTER:C (2+3+4+5)*1
6L 540 1151 (2+3+4+5)*1

ENTER:L 6/84-86
7L 238 482 LIMIT 6/84-86

SET	REC.	OCC.	DESCRIPTION OF SET
1L	3803	3803	R1-R3,R5-R6 ST/HALLEY
2L	579	824	TX/HALLEY //HALLEYS
3L	339	357	ATL/HALLEY //HALLEYS
4L	572	815	AX/HALLEY //HALLEYS
5L	114	114	UTP/HALLEY *+1 S *+1
6L	540	1151	(2+3+4+5)*1
7L	238	482	6/84-86

File Collection F (Book File)

ENTER:S ST/HALLEY'S COMET
1 12 12 ST/HALLEY'S COMET
ENTER:S SUB/COMETS
2 130 147 SUB/COMETS
ENTER:S SUB/HALLEY
3 50 60 SUB/HALLEY
ENTER:S TTL/HALLEY:
4 32 32 TTL/HALLEY
ENTER:S TTL/'HALLEY'S COMET'
5 11 11 TTL/HALLEY *+2 COMET
ENTER:S LT/HALLEY:
6 52 100 LT/HALLEY
ENTER:C 2*3
7 17 45 2*3
ENTER:C 1+3+4+5+6+7
8 53 142 1+3+4+5+6+7
ENTER:L 8/84-86
9 28 76 LIMIT 8/84-86

SET	REC.	OCC.	DESCRIPTION OF SET
1	12	12	ST/HALLEY'S COMET
2	130	147	SUB/COMETS
3	50	60	SUB/HALLEY
4	32	32	TTL/HALLEY //HALLEY
5	11	11	TTL/HALLEY *+2 COMET
6	52	100	LT/HALLEY //HALLEY
7	17	45	2*3
8	53	142	1+3+4+5+6+7
9	28	76	8/84-86

A brief survey of the citations reveals that File Collections D and F include bibliographies, conference papers, teachers' guides (NASA EP-197) and observers' guides as well as technical reports on observations of the comet, the Giotto mission, and the Vega Project. Additionally, several biographical works on Edmond Halley can be found in File Collection F.

Search Hints

RECON—Stored Search

—submitted by Dian Marincola

One of the great pleasures in RECON searching is devising the perfect search strategy. Oh, what joy we experience over combining logical statements which execute in harmonious sequence to yield the optimal retrieval output. Another great pleasure comes from sharing these bits of logistical wisdom with a colleague. This can be easily accomplished by using RECON's stored search feature for networking. All you need is the search name and the terminal identifier on which it is stored. This capability is also especially useful when you are working on a terminal other than your own.

To demonstrate this technique, we have stored the search on Halley's Comet which appears in the lead article of this newsletter. To execute it, signon to File Collection A or D and simply enter:

QUERY EXECUTE HALLEY(ID43)

or

Q EXE HALLEY(ID43)

QUERY EXECUTE is the RECON command for enacting a stored search on RECON. Halley is the name of the search and it is stored on terminal number 43. Notice that there is no space between the word Halley and the left parenthesis.

Once executed you may manipulate the sets or refine the strategy according to your own particular needs. Use the SET STATUS command to display the intermittent search results. You will not be able to alter the original HALLEY strategy that is stored on ID 43. To receive a printout of the results, follow the standard RECON PRINT procedures.

Any stored search can be shared with any NASA/RECON user, if desired. You may want to use this capability within your own organization or with colleagues in other facilities as a form of information dissemination. Just exchange the name of the search strategy and the terminal ID on which it is stored.

All file restrictions attached to your password remain intact when executing another user's stored search. In other words, if you are restricted to unclassified citations, you will not be permitted to display or print confidential and secret citations. You will, however, be able to execute any search, whether it retrieves classified citations or not. You just won't be able to see them.

I must caution you that once someone knows a terminal identifier, he or she may execute any other search stored in the corresponding library. Although that person will not be able to alter or purge those stored queries, we suggest that you coordinate within your facility to select one terminal which may have shared access. Store strategies pertaining to sensitive issues on another terminal. Do not publicize the terminal ID on which these are stored.

Isolating Citations by Language

—submitted by David Steere

The capability to isolate citations according to the language of the documents is a search feature desired by many users. Since the Document Language (LNG) field is not directly searchable on NASA/RECON, the following procedure can be used to create sets of citations in a specific language in File Collections A, B, D, or O. The SORT command is the basis of the procedure. Therefore, the user is cautioned *not* to use the procedure in File Collections N or P, or to combine sorted sets with unsorted sets.

The procedure involves four steps:

1. SORT the desired set in descending order by Document Language (LNG). A descending order set is often more convenient.
2. Enter the Specify Format option to display the Accession Number (ACC), the Document Language (LNG), and the Language Note (LGN). The Language Note field provides information on translated documents or the language breakdown of documents in more than one language.
3. DISPLAY the sorted set in Format 4 (Specify Format option). The foreign language citations are displayed first, followed by the English language citations.
4. KEEP the citations of interest in set 99 to create a set containing documents in a language other than English, or to create a separate set for each language of interest. To do the latter, first keep the citations of interest in set 99, then combine set 99 with set 99 to renumber the set and place it in the search strategy; finally, release set 99. Repeat the procedure for each language of interest.

Applied to the search on Halley's Comet, the described procedure created three sets of citations, each in a specific language, a fourth set containing all reports in a language other than English and a fifth set containing English language reports. The sample search follows.

ENTER:SO 7/LNG,D

8 238 238 SORT 07/LNG,D /

ENTER:SF ACC,LNG,LGN

FORMAT-DEFINITION ACCEPTED.

ENTER:D 8/4

DISPLAY 08/4/1-22 OF 231

85A32516	In RUSSIAN
85A35821	In RUSSIAN
85A35244	In RUSSIAN
85A28499	In RUSSIAN
85A17436	In RUSSIAN

MORE ENTER:K 8/1-22 (All Foreign Languages)
KEEP 8/1-22

ENTER:C 99 + 99

9 22 22 99 + 99

ENTER:R 99

RELEASED 99

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KEEP 8/1-12

ENTER:C 99+99
10 12 12 99+99

ENTER:R 99
RELEASED 99

ENTER:K 8/13-17 (German)
KEEP 8/13-17

ENTER:C 99+99
11 5 5 99+99

ENTER:K 8/18-22 (French)
KEEP 8/18-22

ENTER:C 99+99
12 5 5 99+99

ENTER:R 99
RELEASED 99

ENTER:K 8/23-238 (English)
KEEP 8/23-238

ENTER:C 99+99
13 216 216 99+99

ENTER:R 99
RELEASED 99

ENTER:SS

SET	REC.	OCC.	DESCRIPTION OF SET
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2L	579	824	TX/HALLEY //HALLEYS
3L	339	357	ATL/HALLEY //HALLEYS
4L	572	815	AX/HALLEY //HALLEYS
5L	114	114	UTP/HALLEY *+1 S *+1
6L	540	1151	(2+3+4+5)*1
7L	238	482	16/84-86
8	238	238	SORT 07/LNG,D /
9	22	22	99+99
10	12	12	99+99
11	5	5	99+99
12	5	5	99+99
13	216	216	99+99

societies such as ASIS (Phil Thibideau is on the International Relations Committee) and NFAIS' Governmental and International Relations Committee. The International STI Program also maintains a continuing liaison with foreign embassies, foreign national scientific and technical organizations, and international organizations.

The major emphasis for the future is on concluding national STI exchange agreements with central governmental organizations which can assure a national input into the NASA STI System. Toward this end, discussions are advancing or have been initiated with the relevant agencies of Australia, Canada, India, Israel, and Japan, among others. The Director and Assistant Director of the Canada Institute for Scientific and Technical Information (CISTI) toured the NASA STI Facility on December 5, 1985, and held extensive discussions with the STI Branch staff on December 6, 1985.

Book on Aerospace Libraries Published

Aeronautics and Space Flight Collections (Special Collections, Vol. 3, Nos. 1/2) 229 p.

This book is a survey and history of aerospace and aeronautics library collections. Contributors are from the National Air and Space Museum Library, the Library of Congress, the Air Force Academy, the California Institute of Technology, the University of Texas at Dallas, the Alabama Space and Rocket Center, and the NASA STI Facility. Specific collections are treated in depth, including the Hugh L. Dryden collection at the John Hopkins University, the NACA and NASA report collections at Cal Tech, and the Robert H. Goddard collection at Clark University, Worcester, Massachusetts. The archives of the NASA History Office in Washington, D.C., and the NASA Center Archives and libraries are also discussed.

The wrap-up article titled "Aerospace Bibliographic Control" was authored by a NASA STI Facility lexicographer, Ronald L. Buchan, in collaboration with Philip F. Eckert. This paper presents a thorough treatment of current and historical aerospace bibliographic control techniques with emphasis on the NASA experience. Topics covered in the paper include early NACA and NASA bibliographic control, NASA historical research, STAR and IAA, NASA/RECON, NASA selective dissemination of information, the NASA Library Network, and the NASA Technology Utilization System. The article is appended with an extensive partially annotated bibliography for further reference. For more information contact Ron Buchan at the NASA STI Facility (301) 621-0103. Price: \$29.95/\$2.00 handling & postage (HC). Available from Haworth Press Inc., 22 East 22 Street, New York, NY 10010.

International STI Activities

—submitted by Phil Thibideau

The international STI Acquisition effort encompasses the NASA/ESA Tripartite Program, with more than 440 online participants in Western Europe; the Bilateral (hardcopy) Exchange Program, with more than 200 participants in 43 countries around the world; and AIAA/Technical Information Service's review of some 800 foreign journals each year. Altogether, some 6500 to 7000 foreign items are accessioned into STAR (approx. 27%), and some 24,000 foreign items into IAA (approx. 60%). The fully processed material from ESA includes 60 to 80 ESA Technical Translations which are produced entirely for NASA. In addition, ESA contributes material received under their own bilateral exchanges, including some 50 Russian-language Soviet Institute of Space Research reports each year.

Considerable effort is also expended in support of other NASA programs, including international cooperation projects and visitors, as well as interagency coordination through the CENDI Working Group on International STI Activities, participation in professional

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Postal Manual) Do Not Return

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

Photographic Catalog of Planetary Size Comparisons (NASA TM-86207)

This publication utilizes photographs taken by NASA spacecraft, and cartographic products based on these photos, to illustrate size comparisons of the planets and moons of the solar system. It depicts both global views and prominent geographical features at the same scale, allowing size relationships to be studied visually.

Price: \$16.95

NTIS Order No.: N86-11138

Bibliography of Terrestrial Impact Structures (NASA TM-87567)

This bibliography lists 105 terrestrial impact structures. An attempt has been made to cite for each impact structure all literature published prior to mid-1983. The structures are presented in alphabetical order by continent, and their geographic distribution is indicated on a sketch map.

Price: \$40.95

NTIS Order No.: NASA TM-87567

Recent Eclipse of Epsilon Aurigae (NASA CP-2384)

This document reports the proceedings of a workshop held in January 1985 in Tucson, Arizona, concerning

the new data collected during the 1982-1984 eclipse period of the 27 year system Epsilon Aurigae. This binary star has been a classic problem in astrophysics because the opaque eclipsing object is non-stellar and probably disk shaped.

Price: \$16.95

NTIS Order No.: NASA CP-2384

New Reference Analyst

We are pleased to announce that Peggie Young has joined our RECON Services staff as a Reference Analyst. Peggie has worked in the Acquisitions Section of the NASA STI Facility for the past 13 years. She replaces David Steere, who left the Facility in December to pursue a career with the Smithsonian Institution. We wish both Peggie and David the best of luck in their new positions.

STI-RECON Bulletin and Tech Info News

is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, NASA STI Facility.



National Aeronautics and
Space Administration

STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

FEBRUARY 1986

Searching File Collection E for RTOPs (W-Series)

—submitted by Edna Fleek

File Collection E is the combination of the R&DCS file (K-Series) and the RTOP file (W-Series). The R&DCS file (Research and Development Contract Search file—K10,000 accession series) contains information about NASA R&D contracts, grants, and orders. These items do not represent documents. The RTOP file (Research and Technology Objectives and Plans—W70,000 accession series) contains information about research in progress throughout the NASA Centers. These items do not represent documents. This article is limited to searching techniques applied to the W-Series only.

Searchable Field Mnemonics for File Collection E (RTOPs):

Nontext Searchable Fields:

Report Number	RN
Personal Author	AU
Contract Number	CN
Corporate Source	CO
Corporate Source Text	CT
Subject Terms:	
Major Terms	MJ
Minor Terms	-

Text Searchable Fields:

Text Fields	TX, AX
Title Fields	ATL, UTP

Scope of Search: Find all RTOPs pertinent to long duration exposure (for spaceborne experiments on space shuttle payloads). List all current RTOP numbers pertinent to space shuttle payloads. Search period: 1980–1986.

Begin the search in File Collection E and LIMIT ALL to the accession years 1980 to 1986 and to the W-Series.

ENTER:BB E/E

ENTER:LA 80-86/W

ENTER:S LONG DURATION EXPOSURE FACILITY
1L 6 ST/LONG DURATION EXPOSURE FACILITY

ENTER:S SPACE SHUTTLE PAYLOADS
2L 102 ST/SPACE SHUTTLE PAYLOADS

Use the Specify Format option to display the accession number and the title.

ENTER:SF ACC, UTL

D.1/4/1-6	
85W70260	UTTL: Long Duration Exposure Facility
84W70313	UTTL: Long Duration Exposure Facility
83W70247	UTTL: Long Duration Exposure Facility
82W70316	UTTL: Long Duration Exposure Facility
81W70296	UTTL: Long Duration Exposure Facility
80W70307	UTTL: Long Duration Exposure Facility

To retrieve all references to a specific RTOP number, EXPAND the RTOP number in the contract number (CN) field.

ENTER:X CN/542-04-13

E1	CN/542-03-49	1
E2	CN/542-03-51	1
E3	CN/542-03-52	1
E4	CN/542-03-53	1
E5	CN/542-04-54	1
E6	-CN/542-04-13	7
E7	CN/542-05-01	1

ENTER:S E6

3L 6 CN/542-04-13

ENTER:D 3/4/1-6

85W70260	UTTL: Long Duration Exposure Facility
84W70313	UTTL: Long Duration Exposure Facility
83W70247	UTTL: Long Duration Exposure Facility
82W70316	UTTL: Long Duration Exposure Facility
81W70296	UTTL: Long Duration Exposure Facility
80W70307	UTTL: Long Duration Exposure Facility

Note: When CN/542-04-13 is expanded, 7 reports are noted. When the set is selected, only 6 reports are noted. The missing report is not a W-Series report. It is included in a different series.

To retrieve the RTOP numbers pertinent to space shuttle payloads, use the Specify Format option:

ENTER:SF ACC,CN

ENTER:D 2/4/1-6 of 102

86W70348	676-59-10
86W70215	188-41-24
86W70170	154-60-80
86W70113	323-51-06
86W70110	542-03-00
86W70101	506-49-00

To identify the responsible NASA Center, use the Specify Format option:

ENTER:SF ACC,CO

ENTER:D 2/4/1-3 of 102

86W70348	Jet Propulsion Lab., California Inst. of Tech., Pasadena.
86W70215	National Aeronautics and Space Administration. Goddard Space Flight Center, Greenbelt, Md.
86W70170	National Aeronautics and Space Administration. Marshall Space Flight Center, Huntsville, Ala.

A sample of an RTOP accession follows:

85W70260	542-04-13
UTTL:	Long Duration Exposure Facility
DASPIT, L. P., JR.	804-865-3704
National Aeronautics and Space Administration. Langley Research Center, Hampton, Va.	
The broad LDEF Project objectives are the following:	
(1) to develop the Long Duration Exposure Facility	

Continued on page 3

International STI Activities

The Canada Institute for Scientific and Technical Information

—submitted by Phil Thibideau

This is the first in an occasional series of descriptive reports on the foreign organizations with which NASA has a bilateral scientific and technical information (STI) exchange relationship.

As the STI arm of the Canadian National Research Council, the Canada Institute for Scientific and Technical Information (CISTI), established in 1974, ensures that the Canadian scientific, engineering and health science communities have access to the specialized information they need. Its activities center on maintaining the national collection of scientific and technical literature and on disseminating this material quickly and efficiently to those who need it.

CISTI's collection, which exceeds 2,500,000 reports, books, serials and conference proceedings, over 1,800,000 of which are on microfiche, is the largest collection of its kind in Canada. CISTI catalogs between 30,000 and 40,000 new items each year and supplies over 275,000 documents to its customers each year. It collects all significant scientific, technical and medical journals and conference proceedings regardless of language or country of origin. Books are purchased more selectively to ensure representative coverage of the major subjects. Continual monitoring of loan and photocopy requests keeps CISTI on top of the trends in Canadian information needs, and allows it to orient its acquisition efforts accordingly.

While most new materials are purchased, journals or reports that cannot be purchased or are difficult to locate in Canada are acquired through active exchange agreements with institutions in over 70 countries that exchange their publications for National Research Council and Royal Society of Canada publications. CISTI's 'Special Subject Collections' include astronomy and astrophysics, aeronautical/mechanical engineering, and building research.

CISTI's Health Sciences Resource Centre (medical information) is Canada's national coordinator for access to the MEDLARS databases of the U.S. National Library of Medicine, and provides nationwide training in the use of these services. The Centre also conducts cooperative collection building projects to ensure the availability of all significant medical literature in Canada. CISTI's computer-based activities include an online information retrieval service, CAN/OLE (Canadian online enquiry system), which offers over 30 databases covering the world's major scientific and technical information services and a variety of Canadian databases exclusive to CAN/OLE. The latter include the Canadian Register of Research and Researchers in the Social Sciences, the Cooperative Document Project, the Inventory of Canadian Agricultural Research, the Directory of Federally Supported Research in Universities, the CISTI Catalogue, CAN/MARC (Canadian Machine-Readable Cataloguing),

the Canadian Transportation Documentation System, and the Union List of Scientific Serials in Canadian Libraries. CISTI's online document ordering service, CAN/DOC, allows subscribers to route online document orders directly to the mailboxes of designated suppliers, rather than through CISTI, cutting up to a week off delivery time. CISTI also offers CAN/SND (Scientific Numeric Databases), currently making available two databases, SPIR (Search Program for Infrared Spectra), and CRYSTOR (the Cambridge Crystallographic Database), which are mainly of interest to analytical chemists, spectroscopists, and crystallographers. The CAN/SDI (Canadian Service for the Selective Dissemination of Information) is a current awareness service which operates in the batch-processing mode.

CISTI offers nation-wide reference, referral, and customized literature search services in all areas of science and technology. In addition to its large collection of printed abstracts and indexes, CISTI uses hundreds of scientific, technical, and multidisciplinary databases. It refers clients to scientific experts within the National Research Council, other federal government departments, and scientific laboratories across Canada. As clients increasingly do more of their own literature searching, CISTI's online training activities are expanding. CAN/OLE training seminars are offered across Canada. In-house training facilities, when not in use for CISTI training, are made available to vendors and suppliers of other online databases and systems. CISTI has branches at a number of locations across Canada, providing a full range of services to National Research Council scientific engineering, and support staff. The branches serve various research establishments ranging from Victoria, British Columbia, to the Atlantic Research Laboratory in Halifax, Nova Scotia. All CISTI services are limited to the geographical boundaries of Canada.

Source: *CISTI Annual Report*

Correction

The recently distributed update to page 2-1 of the NASA/RECON User's Reference Manual contains an error. After establishing a Telenet connection the procedure should read:

User Action	Explanation
(CR)(CR) For full duplex	Enter carriage return twice for full duplex.
(CR);(CR) For half duplex	Enter carriage return semi-colon carriage return for half duplex.

Apologies for this inconvenience. New revised pages will be forthcoming.

In this accession, the responsible NASA Center is Langley Research Center; the NASA Technical Monitor is L. P. Daspit, Jr.; the Technical Monitor telephone number is (804) 865-3704; and the RTOP number is 542-04-13.

For this particular exercise, File Collection E was limited to W-accession series. In order to retrieve all references including technical reports to an RTOP number, it is necessary to search File Collection D.

ENTER:BB D/E

ENTER:X CN/542-04-13

E1	CN/542-03-49	1
E2	CN/542-03-51	1
E3	CN/542-03-52	1
E4	CN/542-03-53	1
E5	CN/542-03-54	1
E6	-CN/542-04-13	8
E7	CN/542-04-13-02	1
E8	CN/542-05-01	1

ENTER:S E6,E7

1 9 E6,E7 CN/542-04-13

ENTER:SF ACC,UTL

ENTER:D 1/4/1-6 of 9

85K10655	UTTL:	Partial analysis of LDEF experiment A-0114
85W70260	UTTL:	Long Duration Exposure Facility
84W70313	UTTL:	Long Duration Exposure Facility
83W70247	UTTL:	Long Duration Exposure Facility
84N24632	UTTL:	Long Duration Exposure Facility (LDEF). Mission 1 Experiments
81N27119	UTTL:	A summary of tests on Invar welded with 308L and 8N12 welding rods.

Searching File Collection E for R&DCS (K-Series) will be presented in a future issue.

Special Bibliographies Available

Three special bibliographies on dictionaries are now available as stored searches on ID43. One is a search on dictionaries in general consisting of A and N number accessions and complemented by subject, author, corporate source, contract number and report number indexes. Two and three are for French and German dictionaries in the NALNET book file, sorted by author. All three searches when executed will automatically process the PRINT command. The general dictionary bibliography (SBDICTN) may only be executed in file collections A, B, D, N, O, or P. To execute, simply select a file collection and enter:

Query Execute SBDICTN(ID43)

Upon completion, enter END and then SBDICTN in the title line of the questionnaire to insure identification and proper processing.

Execute the French (SBFDICTN) or German (SBGDICTN) dictionaries bibliographies in Files F or N in the same manner. End the search and enter the stored search name in the Title line of the questionnaire.

If you have any difficulty in executing these queries, contact Dian Marincola at (301) 621-0154.

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in December 1985 are listed. These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AEROSPACE ENVIRONMENTS

Added Scope Note SN(DOES NOT INCLUDE SPACECRAFT INTRA-VEHICULAR ENVIRONMENTS)

BUILDINGS (no longer an array term)

COMBUSTION CHEMISTRY

EARTH ORBITAL ENVIRONMENTS

ELECTROACOUSTICS

FOOD PRODUCTION (IN SPACE)

GEO ENVIRONMENTS

USE EARTH ORBITAL ENVIRONMENTS

GEOSYNCHRONOUS EARTH ORBITAL ENVIRONMENTS

USE EARTH ORBITAL ENVIRONMENTS

LASER INDUCED FLUORESCENCE

LATENT HEAT

LEO ENVIRONMENTS

USE EARTH ORBITAL ENVIRONMENTS

LIF (FLUORESCENCE)

USE LASER INDUCED FLUORESCENCE

LOW EARTH ORBITAL ENVIRONMENTS

USE EARTH ORBITAL ENVIRONMENTS

MAGNETIC FIELD RECONNECTION

NASA SPACE PROGRAMS

PAPUA NEW GUINEA

PARTICULATES

SPACECRAFT ENVIRONMENTS

Added Scope Note SN(RESTRICTED TO INTRA-VEHICULAR ENVIRONMENTS)

THERMOPHORESIS

THRESHOLD VOLTAGE

TOILETS

ULTRAVIOLET DETECTORS

WEAR RESISTANCE

Technology Utilization Office

The Technology Utilization Office is responsible for all inquiries of a general or specific nature related to NASA's TU Program and its technologies. The office provides details about available documents and services. NASA's annual report *Spinoff* is developed here with main emphasis on quantifying the benefits derived from the use of NASA technology provided through the TU Program.

More than 10,000 NASA *Tech Briefs* are available on NASA/RECON identifiable by subject terms, author, title, Center or B-10,000 series number. If you wish to subscribe to the free publication *NASA Tech Briefs*, desire a copy of *Spinoff*, or need additional information in the form of Technical Support Packages (TSPs), contact Walter Heiland, (301) 621-0241, of the Technology Utilization Office at the NASA STI Facility.

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New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

Microgravity: Science and Applications Bibliography — 1985 Revision (NASA TM-88178)

This edition is a compilation of Government reports, contractor reports, conference proceedings, and journal articles dealing with flight experiments utilizing a low-gravity environment to elucidate and control various processes or with ground-based activities that provide supporting research. It encompasses literature published but not cited in the 1984 Revision and that literature which has been published in the past year.

Price: \$16.95

NTIS Order No.: N86-13225

Searching the Horizon: A History of the Ames Research Center, 1940-1976 (NASA SP-4304)

This book charts the growth and expanding interests of Ames, NASA's second oldest research center. It portrays the research center in all its complexity as a combination of personalities, management philosophies, and research needs.

Price: \$13.00

GPO Stock No.: 033-000-00966-6

Personnel Appointments

We are pleased to announce that Eric Vogel has been appointed Manager, Library Services Section. Eric has worked at the NASA STI Facility since 1975, primarily in NALNET management positions. Eric is familiar with NASA practices and needs and has first-hand knowledge of the ARIN project and the conversion phases. Maxine Tucker has replaced Eric as Manager of NALNET functions. Maxine has worked at the NASA STI Facility since 1977, primarily in NALNET Services. We congratulate Eric and Maxine on their new appointments.

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RECON operational problems may be directed to the RECON Coordinator at:

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(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, D.C. 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, NASA STI Facility.

Enhanced AIAA/TIS Document Ordering Service

—submitted by Tom Hanson

The American Institute of Aeronautics and Astronautics/Technical Information Service (AIAA/TIS) and the NASA STI Facility have improved service to NASA/RECON users by streamlining the processing of online orders for AIAA/TIS documents ("A" accessions).

Previously, the NASA STI Facility filled orders for NASA sponsored "A" accessions, identified by an asterisk "*" next to the accession number in the NASA/RECON display, from Facility stock. If unable to do so, the order would be returned with instructions to contact AIAA/TIS to obtain the required document. Also, orders for non-NASA "A" accessions were returned with instructions to contact AIAA/TIS.

Under the new procedures, when the STI Facility is unable to fill an order for a NASA supported "A" accession, the order is forwarded directly to AIAA/TIS. Also, orders for non-NASA "A" accessions are forwarded directly to AIAA/TIS. When an order has been forwarded to AIAA, the user is reminded by mail that the order is forwarded to AIAA. Further information will be announced in the online NASA/RECON news items and future issues of this *Bulletin* as changes are implemented.

AIAA/TIS provides photocopies of "A" accessions, not available from the NASA STI Facility, at the price of \$10.00 per item up to 50 pages; additional pages are \$0.25 each. Complete copyrighted works should be obtained directly from the publishers. Prepayment is required, but AIAA/TIS hopes to maintain their 24 hour turnaround time. Deposit accounts are available in minimum amounts of \$500.00.

For more information regarding the processing of orders for "A" accessions, contact Tom Hanson, Manager, Distribution and Support at the NASA STI Facility (301) 621-0160.

For additional information on acquiring non-NASA "A" accessions, contact Pat Marshall, Director (Library Resources), AIAA/TIS, 555 West 57th Street (12th Floor), New York, NY 10019, (212) 247-6500.

Searching Oriental Personal Names on NASA/RECON

—submitted by Tim Rowe

Searching Chinese or Korean personal names on NASA/RECON sometimes requires special attention due to the reversed format of these names. Unlike Japanese, which follows the same format as Western names, Chinese and Korean names are given with the surname first. The surname is almost always a single-syllable word. The given name then follows the surname and is generally a double-syllable combination. The given name may or may not be combined with a hyphen. A familiar example is Mao Zidong, where "Mao" is the surname and "Zidong" is the given name. To search this name on NASA/RECON,

Enter: **X AU/MAO, Z.**

Naturally, it is incorrect to enter this name as ZIDONG, M. However, as a general rule, for Chinese and Korean author searches it is a good idea to also check the reverse format. Thus, to obtain all possible entries for this author also,

Enter: **X AU/ZIDONG, M.**

Occasionally, a relatively rare double-syllable surname is encountered; or, more commonly, a single-syllable given name. In both of these cases the syllable or syllable combination that appears first is the surname. For example:

Situ Mang = EXPAND AU/SITU, M.

Zhu De = EXPAND AU/ZHU, D.

As above, with these two examples it is also a good idea to check the reverse format to ensure that all possible entries are found.

Other problems which may be encountered are caused by the use of different romanization schemes. An example of this is the obsolete "Mao Tse Tung" for Mao Zidong. This is actually less of a problem, however, as many authors of published material are reluctant to change the spelling of their romanized name and continue to use the obsolete spelling.

For assistance with searching oriental personal names, or other foreign names in general, contact Tim Rowe, NASA Headquarters, (202) 453-2940.

NASA/RECON File Directory

The accession series currently available on NASA/RECON are compiled in the chart below. The chart is intended as a quick guide to the files. Post a copy of it near your terminal or PC as a 'ready reference' tool.

The first column indicates the alphanumeric accession series. Use the letter prefix to limit a search to a particular accession type. Column two gives the file name and corresponding acronym. Columns three and four correlate to the accession years covered for the file collection(s) in which the series is available.

<i>Accession Series</i>	<i>File Name</i>	<i>Coverage</i>	<i>File Collections</i>
A-10,000	International Aerospace Abstracts (IAA)	1968-DATE 1963-67	A,B,D,N,O,P G,H
A-80,000	Aerospace Medicine and Biology Bibliography	1964-69	G,H
B-10,000	NASA Tech Briefs	1963-DATE	B,D,N,O,P
	Aerospace Safety Research and Development Institute (ASRDI)	1975-76	D,I,N,O,P
D-10,000	—Fire Technology		
D-30,000	—Cryogenic Fluids		
D-50,000	—Mechanics of Structure Failure		
F-10,000	Directory of Numerical Databases (DND)	1983-DATE	Q
K-10,000	Research and Development Contract Search (R&DCS)	1972-DATE	B,C,D,E,N,O,P
M-10,000	Computer Software Management and Information Center (COSMIC)	Current Year Only	B,D,N,O,P
M-50,000	Announcement of Software Resources (ASR)	1971-72	D,N,O,P
N-10,000	Scientific and Technical Aerospace Reports (STAR)	1968-DATE 1962-67	A,B,D,N,O,P G,H
N-60,000	Index of NASA Technical Publications with Abstracts Technical Publications Announcements	1962	G,H
N-70,000	Older Scientific and Technical Aerospace Reports Extended	1968-DATE	B,D,N,O,P
N-80,000	Older Scientific and Technical Aerospace Reports	1963-1967	G,H
N-90,000	Documents for Record Only	1963-DATE	G,H
U-50,000	NASA Library Network Periodicals (NALNET)	1973-DATE	M
V-10,000	NASA Library Books (NALNET)	1972-DATE	F,N,P
W-10,000	NASA Research and Development Resumes (RR)	1967-70	G
W-70,000	NASA Research and Technology Objectives and Plans (RTOP)	1971-DATE	B,D,E,N,O,P
X-10,000	Limited Scientific and Technical Aerospace Reports Classified Scientific and Technical Aerospace Reports	1968-DATE 1962-67	D,N G
X-50,000	Classified STAR Secret Supplement	1964-70	G
X-70,000	Older Classified Scientific and Technical Aerospace Reports Extended	1968-DATE	D,N
X-80,000	Older Classified Scientific and Technical Aerospace Reports	1963-67	G
X-90,000	Classified Documents for Record Only	1963-DATE	G
Y-10,000	NASA Safety Databases (for access contact NASA Headquarters Safety Office)	1983-DATE	R

NASA/RECON Users Conference

The 1986 NASA/RECON Users Conference will be held September 25 and 26 at the Marriott Twin Bridges Hotel, Washington DC. Three days of NASA/RECON training will precede the conference. The format for the week's activities will follow that of last year, with a two-day basic training session on Monday and Tuesday (September 22 and 23) and a full-day clinic on Wednesday.

A registration package will be mailed to all NASA/RECON users in July. If you have suggestions for the conference agenda, call John Wilson, NIT-2 (202) 453-2904 or Janice Freeman, STI Facility (301) 621-0101.

Aerospace Database on Mead Data Central

The Aerospace Database is now available online through Mead Data Central's Reference Service. Known as the AERO file, Mead's version of the Aerospace Database presently covers STAR and IAA records back to issue 11 of 1983. Mead plans to make the complete file back to 1962 of over 1.4 million records available during the first half of 1986.

The Aerospace Database is also available on DIALOG as file 108.

NASA/RECON Training

The following training sessions are scheduled for the remainder of the current contract year (to the end of June 1986). Both will be held at the NASA STI Facility.

Basic Training	Advanced Training
May 20 & 21	April 17

Register now. They are filling up fast. Call Dian Marincola at the NASA STI Facility (301) 621-0154.

NASA Thesaurus 1985 Edition Available

The 1985 edition of the *NASA Thesaurus* is now available. The *NASA Thesaurus* contains the authorized subject terms by which the documents in the NASA scientific and technical information system are indexed and retrieved. The *NASA Thesaurus* comprises two volumes: Volume 1 — *Hierarchical Listing* and Volume 2 — *Access Vocabulary*.

This edition has undergone extensive revision since it was last published in 1982. Many new terms and their hierarchies have been added. Array term hierarchies have been revised and expanded.

Distribution of both volumes of the 1985 edition began in February and continued into March to all established users. For more information, contact Ron Buchan at the NASA STI Facility (301) 621-0103.

Availability of Documents

The primary source from which a document announced in the NASA STI system is available to the public is the National Technical Information Service (NTIS). Prices for hard copy (HC) and microfiche (MF) are indicated by a price code. Current values for the price codes are given in the following table.

NTIS PRICE SCHEDULES

(Effective October 1, 1985)

Schedule A STANDARD PRICE DOCUMENTS AND MICROFICHE

PRICE CODE	PAGE RANGE	NORTH AMERICAN PRICE	FOREIGN PRICE
A01	Microfiche	\$ 5.95	\$11.90
A02-A03	001-050	9.95	19.90
A04-A05	051-100	11.95	23.90
A06-A08	101-200	16.95	33.90
A10-A13	201-300	22.95	45.90
A14-A17	301-400	28.95	57.90
A18-A21	401-500	34.95	69.90
A22-A25	501-600	40.95	81.90
A99	801-up	.	.
NO1		\$40.00	70.00
NO2		40.00	70.00

Schedule E EXCEPTION PRICE DOCUMENTS AND MICROFICHE

PRICE CODE	NORTH AMERICAN PRICE	FOREIGN PRICE
E01	\$ 7.50	15.00
E02	10.00	20.00
E03	11.00	22.00
E04	13.50	27.00
E05	15.50	31.00
E06	18.00	36.00
E07	20.50	41.00
E08	23.00	46.00
E09	25.50	51.00
E10	28.00	56.00
E11	30.50	61.00
E12	33.00	66.00
E13	35.50	71.00
E14	38.50	77.00
E15	42.00	84.00
E16	46.00	92.00
E17	50.00	100.00
E18	54.00	108.00
E19	60.00	120.00
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*Contact NTIS for price quote.

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From the Centers

WALLOPS LIBRARY

The Library has started the move back to its refurbished facility. The bulk of the move is expected to be completed by March 1st.

GSFC LIBRARY

Informatics General Corporation has been selected for negotiations for the support service contract for the GSFC Library at the Greenbelt and Wallops sites. The contract will run for 5 years, starting May 1, 1986.

LeRC Brochures

The Technical Information Services Division of the Lewis Research Center has recently published a number of operational brochures. Among these are the following:

- Lewis Library Services
 - This brochure describes the collection and services and is intended to guide NASA scientists and engineers, as well as technicians and other support personnel, in making full use of the library resources.
- NASA/RECON User's Quick Instruction Guide
 - This brochure is designed to aid the novice user in beginning searching and the experienced user in quick lookups of the NASA/RECON Information System.
- Research Publications Processing Guide for Scientific and Engineering Authors
 - This brochure is a guide to aid research authors in the preparation and processing of research material for publication.

Copies of these publications are available from George Mandel, Lewis Research Center, Chief, Technical Information Services Division, FTS 297-5783.

New Publication

A brief description of a new publication recently released by the Scientific and Technical Information Branch follows. Copies are available for sale from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

High-Density Digital Recording (NASA RP-1111)

This book, based on technical papers presented at meetings of the Tape Head Interface Committee (THIC, Inc.), addresses problems associated with high-density digital recording. Part of the book is devoted to problems, solutions, and insights of users and manufacturers of such systems. Also discussed are pulse code modulation coding techniques, error detection and correction, head optimization theory, perpendicular recording, and tape.

Price: \$28.85

NTIS Order No.: N86-14498

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National Aeronautics and
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STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

APRIL 1986

The Research and Development Contract Search (R&DCS) File. How Can You Use It?

—submitted by Peggie Young

The Research and Development Contract Search (R&DCS) file contains information about NASA R&D contracts, grants, and orders dating from 1972 to the present. This information is available as a complement to the ongoing research information contained in the Research and Technology Objectives and Plans (RTOPs, W-10,000 series). The file accessions are identified as the K-10,000 series (i.e., 85K10429), and can be searched in file collections B, C, D, E, N, O, and P. File collection C is devoted exclusively to the K-10,000 accessions, whereas, file collection E contains the K-10,000 accessions and the W-10,000 accessions (RTOPs). These accessions are not surrogates for documents and cannot be ordered from the STI Facility.

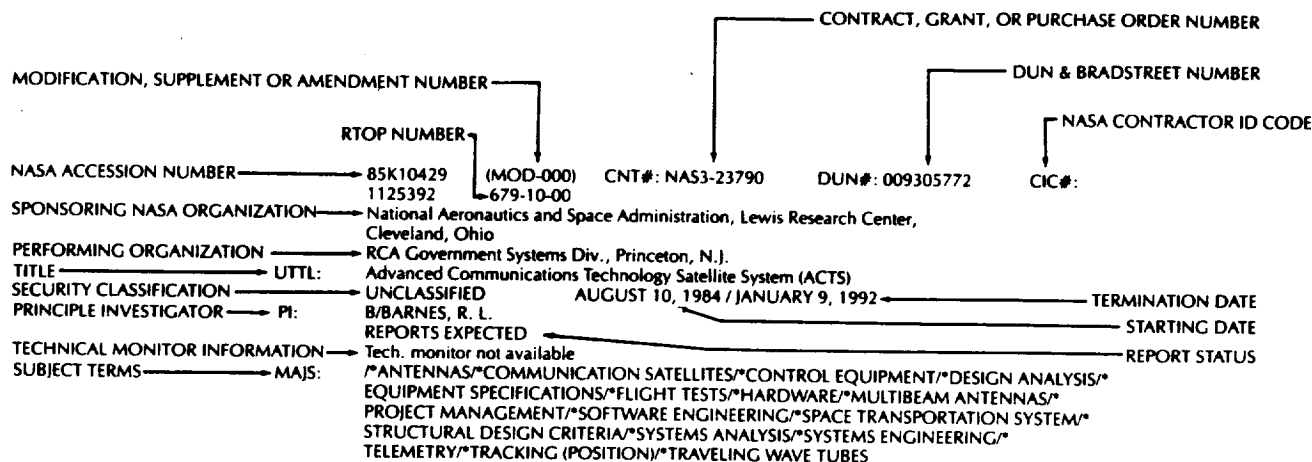
The information contained in a K-10,000 accession includes the accession number, contract modification, contract number, Dun and Bradstreet number (DUN), NASA contractor identification code (CIC), RTOP number, cognizant NASA Center, contractor, contract title, technical monitor (TM), technical monitor mail

code, principal investigator (PI), report status, and major subject terms. The K-10,000 series is updated monthly. The update involves the addition of new contracts and a review of all contract modifications for changes in the statement of work that would require modification of the existing record. In this manner the record reflects the current status of the contract.

Information in the R&DCS file is most often used as a tool that leads to technical reports, published articles, books, or RTOP summaries related to or resulting from the contract of interest. Simply search the contract number (CN), the principal investigator (AU), the corporate source (CT, CO) or the RTOP number (CN) for related information in an appropriate file collection. Additionally the subject terms can be used to develop search strategies to retrieve related information through a subject search.

For more information related to the R&DCS file, contact RECON Services at the NASA STI Facility (301) 621-0150.

Sample Citation



New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given where available with the description.

International Ultraviolet Explorer Atlas of O-Type Spectra from 1200 to 1900 Å (NASA RP-1155)

The International Ultraviolet Explorer archives provide an unprecedented sample of uniform, high-quality ultraviolet stellar spectra. In particular, they contain short wavelength high-resolution data for nearly 200 different O stars. A survey of the 1200-1900 Å region in about 120 of these stars having homogeneous optical spectral classification has been undertaken to investigate systematically the behavior of the ultraviolet features, including the prominent stellar wind profiles, and the degree to which they correlate with the optical types. The standard extracted spectrograms have been rebinned to a constant wavelength resolution of 0.25 Å and uniformly normalized (not dereddened). They are then plotted at 10Å/cm, with resseau, photometric quality, and echelle order junction flags available. This atlas contains such plots for about 100 stars.

Aeronautical Facilities Catalogue, Volume 2: Airbreathing Propulsion and Flight Simulators (NASA RP-1133)

This volume deals with airbreathing propulsion and flight simulation facilities. It presents data pertinent to managers and engineers. Each facility is described on a data sheet that shows the facility's technical parameters on a chart and more detailed information in narratives. Volume 1, N86-18991, deals with domestic and foreign wind tunnel facilities.

Price: \$22.95

NTIS Order No.: N86-18328

Publications of the Exobiology Program for 1984 (NASA TM-88382)

A list of 1984 publications resulting from research pursued under the auspices of NASA's Exobiology Program is presented.

1984-85 NASA Space/Gravitational Biology Accomplishments (NASA TM-88379)

Individual technical summaries of research projects of NASA's Space/Gravitational Biology Program are given. The summaries for each project include a description of the research, a listing of accomplishments, and an explanation of the significance of the accomplishments.

Price: \$16.95

NTIS Order No.: N86-18950

USSR Space Life Sciences Digest, Issue 3 (NASA CR-3922(03))

This bimonthly issue of the USSR Space Life Sciences Digest includes abstracts for Soviet periodical articles published in Russian during 1985. Subjects covered include adaptation, biospherics, body fluids, botany, cardiovascular and respiratory systems, endocrinology, exobiology, gravitational biology, habitability and environmental effects, health and medical treatment, immunology, life support systems, metabolism, microbiology, musculoskeletal system, neurophysiology, nutrition, perception, personnel selection, psychology, radiobiology, and space physiology.

Price: \$16.95

NTIS Order No.: N86-18949

Personnel Changes at Centers

MSFC

Lois Robertson, STI Manager and Chief, Administrative Services Division, has retired. Her responsibilities included the Library, Technical Publications, and Printing and Reproduction. A replacement has not been named.

KSFC

Milorad Konjevich, Chief, Information Services Section, died just before Christmas. A replacement has not been named.

LaRC

Andrew J. Hansbrough has been named Chief, Research Information and Applications Division, with responsibility for the Technical Editing Branch, Visual and Printing Services Branch, and the Technical Library.

JSFC

Ginger Darnell has been named Chief, Technical Information Branch, replacing Laverne Brazil who has retired.

RECON Search Assistance...

Does searching have you down? Did you forget how to use the SPECIFY FORMAT Command? Is searching File Collection E confusing? Call (301) 621-0150. We are RECON Services and we want to help.

Contents of NASA/RECON File Collections

We think you will find the NASA/RECON File Collection chart listed below to be a handy reference tool. Column one indicates the file collections currently available on NASA/RECON. Column two lists which accession series are available in the corresponding file collection. Column three gives the accession years covered for each accession series.

File Collection	Accession Series	Date Range	File Collection	Accession Series	Date Range
A "IAA & STAR"	A-10,000 N-10,000	1968-date 1968-date	H "Unclassified Alternate Files"	A-10,000 A-80,000 N-10,000 N-60,000 N-80,000 N-90,000	1963-1967 1964-1969 1962-1967 1962 1963-1967 1963-date
B "Selected Unclassified"	A-10,000 B-10,000 K-10,000 M-10,000 N-10,000 N-70,000 W-70,000	1968-date 1963-date 1972-date update year only 1968-date 1968-date 1972-date	I "ASRDI"	D-10,000 D-30,000 D-50,000	1975-1976 1975-1976 1975-1976
C "Contracts"	K-10,000	1972-date	M "NALNET Periodicals"	U-50,000	1973-date
D "Primary Files"	A-10,000 B-10,000 D-10,000 D-30,000 D-50,000 K-10,000 M-10,000 M-50,000 N-10,000 N-70,000 W-70,000 X-10,000 X-70,000	1968-date 1963-date 1975-1976 1975-1976 1975-1976 1972-date update year only 1971-1972 1968-date 1968-date 1972-date 1968-date 1968-date	N	"Primary R&D and NALNET Books" (File Collection D with V-10,000, 1972-date)	
E "Research in Progress"	K-10,000 W-70,000	1972-date 1972-date	O	"Unclassified Primary Files" (File Collection D without X-10,000 and X-70,000)	
F "NALNET Books"	V-10,000	1972-date	P	"Unclassified Primary R&D and NALNET Books" (File Collection D with V-10,000, 1972-date without X-10,000 and X-70,000)	
G "Alternate Files"	A-10,000 A-80,000 N-10,000 N-60,000 N-80,000 N-90,000 X-10,000 X-50,000 X-80,000 X-90,000	1963-1967 1964-1969 1962-1967 1962 1963-1967 1963-date 1963-1967 1964-1970 1963-1967 1963-date	Q "Directory of Numerical Databases"	F-10,000	1983 +
			R* "Safety"	Y-10,000	1983 +
*For access contact NASA Headquarters Safety Office					

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New Thesaurus Terms

Subject terms added to the NASA Thesaurus in February 1986 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ACOUSTIC FREQUENCIES

ARIEL

A moon of Uranus.

CHRONOBIOLOGY

USE RHYTHM (BIOLOGY)

CONTINUOUS FLOW ELECTROPHORESIS

USE ELECTROPHORESIS

GRAND UNIFIED THEORY

A theory describing the unification of gravitation with the other elementary forces in physics, i.e., the electroweak force, the strong force, and the electromagnetic force.

GUT

USE GRAND UNIFIED THEORY

INDIUM-TIN-OXIDE SEMICONDUCTORS

USE ITO (SEMICONDUCTORS)

ITO (SEMICONDUCTORS)

Semiconductor devices consisting of a layer of tin sandwiched between an indium layer and an oxide layer.

METAL-SEMICONDUCTOR-METAL SEMICONDUCTORS

USE MSM (SEMICONDUCTORS)

MIRANDA

A moon of Uranus.

MSM (SEMICONDUCTORS)

Semiconductor devices consisting of a semiconductor layer sandwiched between two layers of metal.

OBERON

A moon of Uranus.

RADIO JETS (ASTRONOMY)

REFLECTOR ANTENNAS

Antennas consisting of a reflecting surface and a feed.

SILICON-ON-INSULATOR SEMICONDUCTORS

USE SOI (SEMICONDUCTORS)

SOI (SEMICONDUCTORS)

Semiconductor devices consisting of a silicon layer coupled to an electrically insulating layer.

SOUND FREQUENCIES

USE ACOUSTIC FREQUENCIES

SQUEEZED STATES (QUANTUM THEORY)

Single mode minimum uncertainty states for which the fluctuations in one quadrature phase of the field are smaller than would occur for a coherent state.

TITANIA

A moon of Uranus.

TRANSCONDUCTANCE

The change in plate current divided by the change in control-grid voltage that causes it, when the plate voltage and all other voltages are kept constant.

TWO PHOTON COHERENT STATES

USE SQUEEZED STATES (QUANTUM THEORY)

UMBRIEL

A moon of Uranus.

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National Aeronautics and
Space Administration

STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

MAY 1986

Online Ordering Service

The newly expanded Online Ordering Service has streamlined the overall ordering process for AIAA/TIS documents, or A-accessions. A-accessions are now available to authorized users either from the NASA STI Facility or from AIAA/TIS through the Online Ordering Service. Orders that can not be filled by the Facility are accepted and forwarded directly to AIAA via express mail for handling. There are four conditions of A-accessions identified by the presence or absence of an asterisk (*) for NASA Sponsored and a pound sign (#) for Microfiche Available. Online order messages received in response to an ORDER command have been tailored to each condition of all A-accessions. The four conditions of A-accessions and their corresponding online order messages or system responses are explained below.

NASA Sponsored, Microfiche Available

85A45877*# ← NASA Sponsored
← Microfiche Available

This condition of A-accessions is identified by an asterisk (*) and a pound sign (#) after the A-accession number. These are NASA sponsored documents, available on microfiche.

The online order message for either *hardcopy* or *microfiche* requests is:

REQUEST FOR DOCUMENT NO. 85A45877 HAS BEEN RECORDED. NASA STIF WILL ATTEMPT TO COMPLY WITH YOUR REQUEST.

Non-NASA, Microfiche Available

85A37231# ← Microfiche Available

This condition of A-accessions is identified by a pound sign (#) after the A-accession number. These are non-NASA sponsored documents, available on microfiche.

The online order message for either *hardcopy* or *microfiche* requests is:

REQUEST FOR DOCUMENT NO. 85A37231 HAS BEEN RECORDED. NASA STIF WILL ATTEMPT TO COMPLY WITH YOUR REQUEST.

NASA Sponsored, No Microfiche

85A40792* ← NASA Sponsored

This condition of A-accessions is identified by an asterisk (*) after the A-accession number. These are NASA sponsored documents, not available on microfiche.

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The online order message for *microfiche* requests is:

UNABLE TO FILL ORDER FOR MICROFICHE OF 85A40159. PLEASE REORDER IN HARDCOPY.

If the user reorders in hardcopy, the order message for hardcopy requests forwarded to AIAA/TIS for handling is displayed. (See above.)

Information on how to enter the ORDER command can be found in Section 3.15 of the NASA/RECON User's Reference Manual, and is included in the NASA/RECON User Registration Package. For more information on the NASA STI Facility handling of IAA orders, contact Tom Hanson, Manager, Distribution and Support, (301) 621-0160.

This is the second article on the improved Online Ordering Service. Its main features were described in the March 1986 Bulletin.

How to Search Country of Intellectual Origin

—submitted by Dian Marincola

Country of Intellectual Origin (CI) refers to the national source or origin of a report. For translated reports, the origin of the original report is the determining factor, not the translation organization. It is a mandatory data element for all A, N and X accessions, and is displayed on NASA/RECON for these accession series from 1962 to date.

Each entry in the CI field is displayed in a standardized format, taken from an authority list. Use the EXPAND command to familiarize yourself with the form and lexicon of the valid country names or terms. As you look at the EXPAND display, note that there are entries for "International Organization," "Other," and "Unknown" and the UNITED STATES is omitted. Reports for which the CI cannot be determined are indexed to Unknown; Other is used if the source is not on the authority list; and International Organization is used if the report was a joint venture among several countries or was generated by an international organization, i.e., WMO, NATO, The Hague, etc.

Although the term UNITED STATES displays as a CI on a NASA/RECON accession, it is not directly searchable. The term UNITED STATES is omitted because the majority of the reports in the STI database are indexed to this term. Due to the size of the complete set, it is more effective to use an exception processing technique to locate reports from the United States in a set than to directly search on the term itself.

The Country of Intellectual Origin can be searched using the SELECT and EXPAND commands and the mnemonic CI. The SELECT command generates a set of accessions indexed to the country name entered; the EXPAND command provides an alphabetized display of the country names in the authority file and shows the number of accessions indexed to each.

Sets can be SORTed by Country of Intellectual Origin using the mnemonic CIO (as of this publication). Any set can be SORTed in ascending or descending order within a 5,000 accession limit.

EXAMPLE: SORT 1/CIO,d (descending order)
or SORT 1/CIO,a (ascending order)

To isolate accessions in a set whose Country of Intellectual Origin is the UNITED STATES, simply SORT the set by Country of Intellectual Origin in descending order. This clusters the UNITED STATES' accessions near the top of the sorted set. Next use the SPECIFY FORMAT option to display the accession number and the country of intellectual origin. Remember to use

the mnemonic CIO in the SORT command and in the SPECIFY FORMAT option. DISPLAY the sorted set in Format 4 and use the KEEP command to select the UNITED STATES accessions. The KEEP set, or set 99, now contains accessions with the UNITED STATES as the country of intellectual origin.

Note: Review the accessions indexed to "Unknown," many reports from the United States may be found in this set.

Acronym List

The following list of acronyms and their meanings was compiled from frequent questions to the search analysts. It is presented here as a reference tool. Do you have a similar tool, or users' aid, that you would like to share? Contact RECON Services at the NASA STI Facility (301) 621-0150.

ACC — Advanced Carbon-Carbon
AI — Artificial Intelligence
ATC — Air Traffic Control
ATE — Automatic Test Equipment
CAD — Computer Aided Design
CAI — Computer Assisted Instruction
CAM — Computer Aided Manufacturing
CCC — Command, Control, and Communications
CCD — Charge Coupled Devices
CELSS — Closed Ecological Life Support System
CSM — Command Service Module
ECCM — Electronic Counter Countermeasures
ECM — Electronic Countermeasures
EHF — Extremely High Frequencies
ERTS — Earth Resources Technology Satellite
FIR — Far Infrared
FLIR — Forward Looking Infrared
GIS — Geographic Information System
ICBM — Intercontinental Ballistic Missile
IR — Infrared
IUE — International Ultraviolet Explorer
LACIE — Large Area Crop Inventory Experiment
LASER — Light Amplification by Stimulated Emission of Radiation
LEM — Lunar Excursion Module
LIDAR — Light Detection and Ranging
LIRS — Laser Imaging Radar Sensor
LRV — Lunar Roving Vehicle
LSS — Large Space Structures
LSST — Large Space System Technology
LST — Large Space Telescope
MASER — Microwave Amplification by Stimulated Emission of Radiation
NDE — Nondestructive Evaluation
NDT — Nondestructive Tests
OAO — Orbiting Astronomical Observatory
PCB — Printed Circuit Board
RADAR — Radio Detection and Ranging
SDI — Strategic Defense Initiative
SCRAMJETS — Supersonic Combustion Ramjet Engines
TDRSS — Tracking and Data Relay Satellite System
UHF — Ultrahigh Frequencies
VHF — Very High Frequencies

Abbreviations and Acronyms in the NASA Thesaurus

—submitted by Ron Buchan

The NASA Thesaurus contains many acronyms. Some are USE references to valid subject terms; others are valid subject terms. These acronyms may be EXPANDED in the online Thesaurus or the subject term index to identify the desired subject term. This eliminates the necessity to key the complete term, thus saving time. Two approaches can be used.

1. EXPAND the acronym in the subject term index. If the acronym is a USE reference EXPAND the E reference number and SELECT the subject term from the Thesaurus expansion (R02).

ENTER: X AMOOS*1*5
EXPAND ST/AMOOS

REF	DESCRIPTOR	TP	OCC	TS
E01	ST/AMOEBA-----	N	18	6
E02	ST/AMOOS-----	U	0	1
E03	ST/AMOR ASTEROID-----	N	23	9
E04	ST/AMORPHOUS MATERIALS-----	N	1597	7
E05	ST/AMORPHOUS SEMICONDUCTORS-----	N	1289	2
E06	ST/AMOUNT-----	N	60	4
E07	ST/AMPERAGE-----	U	0	1

ENTER: X E2
EXPAND ST/AMOOS

REF	DESCRIPTOR	TP	OCC	TS
R01	ST/AMOOS-----	U	0	1
R02	US/AEROMANEUVERING ORBIT TO ORBIT SHUTTLE-----	N	5	0

ENTER: S R2
1 5 5 US/AEROMANEUVERING ORBIT TO ORBIT SHUTTLE

If the acronym is a valid subject term, or part of a subject term SELECT the E reference number(s).

ENTER: X AMPS*1*5
EXPAND ST/AMPS

REF	DESCRIPTOR	TP	OCC	TS
E01	ST/AMPOULES-----	N	64	3
E02	ST/AMPS-----	U	0	0
E03	ST/AMPS (SATELLITE PAYLOAD)-----	N	72	7
E04	ST/AMPTE (SATELLITES)-----	N	10	10
E05	ST/AMTV-----	U	0	1
E06	ST/AN-2 AIRCRAFT-----	N	14	5
E07	ST/AN-22 AIRCRAFT-----	N	5	10

ENTER: S E3
2 72 72 ST/AMPS (SATELLITE PAYLOAD)

2. EXPAND the acronym in the online Thesaurus. SELECT the R reference number to create a set of records indexed to the term. EXPAND the R reference number to review the hierarchy of the term.

ENTER: X TS/ST
EXPAND TS/ST

REF	DESCRIPTOR	TP	OCC	TS
R01	ST/ST-----	U	0	1
R02	US/SPACE TRANSPORTATION SYSTEM-----	N	1992	63

ENTER: S R2
3 1995 1995 US/SPACE TRANSPORTATION SYSTEM

ENTER: X R2
EXPAND US/SPACE TRANSPORTATION SY

REF	DESCRIPTOR	TP	OCC	TS
R01	US/SPACE TRANSPORTATION SYSTEM-----	N	1992	63
R02	UF/ST-----	U	0	1
R03	NT/AEROMANEUVERING ORBIT TO ORBIT SHUTTLE-----	N	5	0
R04	NT/ATLANTIS (ORBITER)-----	N	1	13
R05	NT/CHALLENGER (ORBITER)-----	N	45	21
R06	NT/COLUMBIA (ORBITER)-----	N	149	15
R07	NT/DISCOVERY (ORBITER)-----	N	10	16
R08	NT/ENTERPRISE (ORBITER)-----	N	20	10
R09	NT/SPACE SHUTTLE BOOSTERS-----	N	789	10
R10	NT/SPACE SHUTTLE MISSION 31-A-----	N	29	8

Note: A USE cross reference can be EXPANDED in either the subject term index or the online Thesaurus; it cannot be SELECTed. A SELECT command yields negative results.

ENTER: S AMOOS
TERM IN SELECT COMMAND NOT IN DICTIONARY

However it is possible to SELECT or EXPAND an acronym in a text (TX) search to retrieve the frequency of occurrence in the text searchable fields, i.e., title, abstract, etc. A review of the abstracts and titles will often lead to an explanation of the acronyms.

ENTER: X TX/AMOOS*1*5
EXPAND TX/AMOOS

REF	DESCRIPTOR	TP	OCC	TS
E01	TX/AMONTONS-----	B	2	0
E02	TX/AMOOS-----	B	24	0
E03	TX/AMOUNT-----	B	1	0
E04	TX/AMOR-----	B	58	0
E05	TX/AMORD-----	B	9	0
E06	TX/AMORHOUS-----	B	2	0
E07	TX/AMORICAIN-----	B	1	0

ENTER: S E2
4 8 24 TX/AMOOS

ENTER: S TX/AMOOS
5 8 24 TX/AMOOS

NASA/RECON Users Conference

Just a reminder that the 1986 NASA/RECON Users Conference will be held Thursday and Friday, September 25 and 26 at the Marriott Twin Bridges Hotel in Washington, DC. The conference will be preceded by a two-day NASA/RECON basic training session on Monday and Tuesday, and a day long clinic on Wednesday.

A registration package will be mailed to all NASA/RECON users in July. If you have suggestions for the conference agenda, call John Wilson, NIT-2 (202) 453-2904 or Janice Freeman, STI Facility (301) 621-0101. Hope to see you there!

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New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given where available with the description.

USSR Space Life Sciences Digest, Issue 4 (NASA CR-3922(04))

Abstracts are included for 42 Soviet periodical articles published in Russian during the last third of 1985. Selected articles are illustrated with figures and tables from the original. In addition, translated introductions and tables of contents for 17 Russian books on 12 topics related to NASA's life science concerns are presented. Areas covered are adaptation, biological rhythms, biospherics, body fluids, botany, cardiovascular and respiratory systems, cytology, developmental biology, endocrinology, exobiology, habitability and environmental effects, health and medical treatment, hematology, histology, human performance, immunology, mathematical modelling, metabolism, microbiology, musculoskeletal system, neurophysiology, nutrition, perception, personnel selection, psychology, and radiobiology. Two book reviews translated from the Russian are included and lists of additional relevant titles available in English with pertinent ordering information are given.

The Human Factor: Biomedicine in the Manned Space Program to 1980 (NASA SP-4213)

The purpose of this publication is to provide NASA personnel, NASA managers, and the biomedical and historical research communities a well-documented historical summary of the content and organization of

NASA's biomedical programs from Project Mercury up to the Shuttle program. The publication includes not only a major narrative portion, but appendixes and reference notes.

Price: \$23.00

GPO Stock No.: 033-000-00977-1

Interrelationships Among Circumstellar, Interstellar, and Interplanetary Dust (NASA CP-2403)

Proceedings of a workshop held at the Aspen Institute's Wye Plantation Conference Center in Wye, Maryland, from February 27 to March 1, 1985. The workshop was attended by 50 astronomers, astrophysicists, planetary scientists and meteoriticists and emphasized the interdisciplinary nature of studies of cosmic dust.

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(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NIT-2, Washington, DC 20546, (202) 453-2904.

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National Aeronautics and
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Scientific and Technical
Information Branch

JUNE 1986

Some Search Techniques to Maximize NASA/RECON Response Time

The response time of NASA/RECON is dependent upon many variables. These include 'peak usage hours,' search complexity, commands used, etc. Many searchers have devised techniques to maximize NASA/RECON response time and, therefore, enhance the effectiveness of their search time. The following suggestions may help you to maximize your search time.

Take advantage of low usage hours to maximize your search time. NASA/RECON is a time sharing system, thus, response time is slower during peak usage hours. These are 10:30 a.m. to 11:30 a.m. ET and 1:30 p.m. to 3:00 p.m. ET. Low usage hours are before 10:30 a.m., at noon, and after 3:00 p.m. ET. Execute a search during these hours to get the fastest response from NASA/RECON.

Develop a search strategy before you sit at the terminal. Most searchers agree that optimal retrieval is dependent upon sound logic. Use the least number of statements necessary to satisfy the scope of the search. To do this, dissect complex queries into simple search statements and devise appropriate boolean (COMBINE) arguments. Then, enter the search statements in decreasing relevance; it may be that fewer statements are needed than originally thought. This type of preparation maximizes search time and effort.

If you use the capabilities of NASA/RECON to devise a search strategy, formulate a plan to achieve it. Determine beforehand which terms to EXPAND and the appropriate fields for them. Before SELECTing or EXPANDing a term, consider how the results can be used to satisfy the scope of the search. If NASA/RECON's free text search capability is utilized, determine which is more appropriate, a single word, a phrase, or a proximity search. A carefully planned and thought out search often requires less processing time for you as well as NASA/RECON.

Be careful with root searching or truncating in text fields, i.e., TX, ATL, AX, UTP. This type of free text search requires a significant amount of processing time. This is especially true when a 'COMMON' stem

is truncated. Frequency of occurrence is often the factor that determines the amount of time required to process a command. Determine the uniqueness of a stem by EXPANDing it in a text field. This provides a 'peek' at the frequency of occurrence and the number of terms with the same stem. Two options are now available, either continue with the root search or SELECT sets from the text expansion. The second option often requires less processing time, and provides more relevant results, due to the SELECTION process.

Users often attempt to truncate as a 'shortcut' to retrieve *only* the singular and plural forms of a word. However, when you truncate, NASA/RECON generates a set of all terms in the index searched that begin with the string of characters or stem entered. If for example you truncate TX/patent:, the result is a set that includes patent and patents (which is the last term in the TX index with the chosen stem), as well as *all* terms that alphabetically occur between the two terms. Try EXPANDing TX/patent and SELECTing the singular and plural forms of the term. Notice the difference in the number of citations retrieved. Another effective method for singular and plural word searching uses SEARCH EXPRESSION. Enter SE TX/patent or TX/patents and retrieve the same set as the EXPAND/SELECT technique.

Be selective when using the FREQUENCY command. This command is a valuable search tool, however, it also requires a great deal of processing time. Use it only on the most relevant sets, then print the frequency list on your local printer to save the information.

Many other techniques can be used to maximize the effectiveness of your search time. Some of these will be covered in future issues of the Bulletin. To share techniques that you have devised to enhance your retrieval, contact RECON Services at the NASA STI Facility, (301) 621-0150.

Searching NASA Patents and Patent Applications

NASA patents and patent applications are regularly announced in *STAR* and in the semi-annual *Patent Abstracts Bibliography, NASA SP-7039*. They can be searched online. Each NASA patent or patent application has a NASA-CASE-number and a US-Patent-number in the report number (RN) field, the term PATENTS or PATENT APPLICATIONS in the subject term field (ST or default), and the statement 'Patent' or 'Patent Application' in the title supplement (TSP) field. Each of these fields can be searched to retrieve NASA patents or patent applications.

Since NASA patents and patent applications are accessioned into the 1N (*STAR*) series, and to limit the size of the sets, LIMIT the search to the 1N series and to the accession years of interest or to a specific accession range.

```
ENTER:LA 86/N10001-69999
LIMIT-ALL ACCEPTED 86/N/10001-69999
```

Report Number (RN)

A report number search is the most direct search. If the NASA-CASE-number or the US-Patent-number is known, simply SELECT the number from the report number index.

```
ENTER:S RN/NASA-CASE-LAR-13354-1
1L 1 1 RN/NASA-CASE-LAR-13354-1
```

or,

```
ENTER:S RN/US-PATENT-APPL-SN-746901
1L 1 1 RN/US-PATENT-APPL-SN-746901
```

Use a RANGE search to retrieve all NASA patent and patent applications. Enter sequential RANGE searches as long as the system indicates 'TIME LIMIT EXCEEDED'; then COMBINE all sets using the boolean operand OR (+). The final set includes all NASA patents and patent applications within the accession year(s) and range searched.

```
ENTER:S RN/NASA-CASE:NASA-CASE-9999
2L 52 52 RN/NASA-CASE ARC-10304-1 RN/NASA-C
ASE-LEW-11881-1 RANGE SEARCH TIME LIM
T EXCEEDED
ENTER:S RN/NASA-CASE-LEW-11881:NASA-CASE-9999
3L 11 11 RN/NASA-CASE-LEW-11881-1 RN/NASA-C
ASE-MFS-06074 RANGE SEARCH TIME LIM
T EXCEEDED
ENTER:S RN/NASA-CASE-MFS-0674:NASA-CASE-9999
4L 52 52 RN/NASA-CASE-MFS-07369 RN/NASA-C
ASE-XLA-03645 RANGE SEARCH TIME LIM
T EXCEEDED
ENTER:S RN/NASA-CASE-XLA-03645:NASA-CASE-9999
** NO HITS **RN/NASA-CASE-XLA-03645 RN/NASA-C
ASE-SNP-10854 RANGE SEARCH
ENTER:C 2-4/+
5L 115 115 2+3+4
```

Use a ROOT search to isolate NASA patents from a specific Center. The prefix identifies the Center.

```
ENTER:S RN/NASA-CASE-LAR:
6L 25 25 RN/NASA-CASE-LAR-02743 RN/NASA-C
ASE-LAR-13444-1-CU ROOT/NASA-CASE-LAR
```

Title Supplement (TSP)

The title supplement is a text searchable field. Search this field for the statements *Patent* or *Patent Application*. COMBINE the sets to isolate the patents using the boolean operand NOT(−). The three sets contain all patents and patent applications, all patent applications, and all patents, respectively. These sets are *not* limited to NASA patents and patent applications.

```
ENTER:S TSP/PATENT
7L 396 396 TSP/PATENT
ENTER:S TSP/PATENT APPLICATION'
8L 244 244 TSP/PATENT * + 1 APPLICATION
ENTER:C 7-8
9L 152 152 7-8
```

Subject Term (ST or default)

A subject term search also yields *all* patents and patent applications, NASA and non-NASA. However, bibliographies and other works dealing with patents are also retrieved. SELECT the subject terms PATENTS and PATENT APPLICATIONS and COMBINE using the boolean operand OR(+).

```
ENTER:S PATENTS
10L 150 150 ST/PATENTS
ENTER:S PATENT APPLICATIONS
11L 228 228 ST/PATENT APPLICATIONS
ENTER:C 10+11
12L 373 373 10+11
```

Several techniques can be used to isolate the NASA patents and patent applications in the foregoing sets.

1. COMBINE the subject term or the title supplement sets with the report number sets. Only NASA patents and patent applications have NASA-CASE-report numbers. Use the boolean operand AND(*).

```
ENTER:C 12*5
13L 115 115 12*5
ENTER:C 7*5
14L 114 114 7*5
```

2. SORT the set by financial support (FST) and use the SPECIFY FORMAT option to DISPLAY the accession number and the financial support fields. The NASA items are identified with an asterisk (*) in the financial support field, KEEP them and COMBINE 99+99 to place the KEEP set in the search strategy. RELEASE 99 and SORT the final set in descending accession number order or normal NASA/RECON order.

```
ENTER:SORT 12/FST
15 373 373 SORT 012/FST /
ENTER:SF ACC,FST
FORMAT-DEFINITION ACCEPTED.
ENTER:D 15/4/1-5 DISPLAY 15/4/1-5 OF 5
86N19581 *
86N19580 *
86N20126 *
86N20125 *
86N20124 *
```

MORE ENTER:K 15/1-119
KEEP 15/1-119

ENTER:C 99+99
16L 119 119 99+99

ENTER:R 99
RELEASED 99

ENTER:SORT 16/ACC,D
17 119 119 SORT 016/ACC,D/

3. To eliminate the bibliographies, SELECT the term BIBLIOGRAPHIES and COMBINE using the boolean operand NOT(-). To isolate the bibliographies, use the boolean operand AND(*).

ENTER:S BIBLIOGRAPHIES
18L 96 96 ST/BIBLIOGRAPHIES

ENTER:C 17-18
19L 115 115 17-18

ENTER:C 17*18
20L 4 4 17*18

or enter a SEARCH EXPRESSION.

ENTER:SE (PATENTS+PATENT APPLICATIONS)-
BIBLIOGRAPHIES

21L 150 150 ST/PATENTS
22L 228 228 ST/PATENT APPLICATIONS
23L 96 96 ST/BIBLIOGRAPHIES
24L 369 369 (21+22)-23

ENTER:C (21+22)*23
25L 4 4 (21+22)*23

Corporate Source Authority List (CSAL) Distribution Reduced

Recent survey results have indicated that the Corporate Source Authority List (CSAL) is of limited value as a search tool, now that the Corporate Source files are available online. In light of these findings the general distribution of this product has been discontinued.

We will continue to produce a limited number of copies for those users who use the CSAL as an input authority tool.

Good News for Hardwire Users

Root and range searching has not been an easy task for hardwire NASA/RECON users. They have long had to contend with the fact that the last term retrieved was not displayed on the terminal screen. They were forced to keep their printers activated, so that the last term retrieved would at least be displayed on paper. All this will change in mid-summer of 1986. Hardwire, including ARIN, users will have the last term retrieved as well as any processing message, such as POSTING LIMIT EXCEEDED, displayed on their terminal screen.

Due to a minor screen reconfiguration, this will cause a slight change in the arrangement of that information on the screen. It will not, however, interfere with normal NASA/RECON searching.

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in May 1986 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

CALIFORNIUM COMPOUNDS

CANARY ISLANDS

EINSTEINIUM COMPOUNDS

GEOPOTENTIAL RESEARCH MISSION

A NASA gravity field mapping mission utilizing the low-low satellite tracking concept to measure the Doppler between two coorbiting polar satellites. Used for GravSat satellites.

GERMAN INFRARED LABORATORY

A proposed infrared telescope for Spacelab that was discontinued in 1985. It superseded the LIRTS (telescope).

GOES 6

The sixth in a series of geostationary operational environmental satellites launched in May 1981.

GOES-G

The satellite was to have been the seventh in a series of geostationary operational environmental satellites. The May 1986 launch failed.

GRAVSAT SATELLITE

USE GEOPOTENTIAL RESEARCH MISSION

SUPERGRAVITY

SUPERSYMMETRY

More Acronyms

Acronyms and their meanings compiled by search analysts are listed below. The list is presented as a reference tool. To share a similar tool, or user's aid, contact RECON Services at the NASA STI Facility (301) 621-0150.

ACF — Autocorrelation Function

CRRES — Combined Release and Radiation Effects Satellite

DISPO — Display Interactive System of Orbit Planning

EAS — Extensive Air Showers

GCR — Galactic Cosmic Ray

HIIS — Heavy Ions in Space

LEAR — Low Energy Antiproton Ring

LSD — Liquid Scintillation Detector

PIXE — Proton Induced X-ray Emission

SAR — Synthetic Aperture Radar

SCR — Solar Cosmic Rays

SLAR — Side-Looking Airborne Radar

TRP — Two-step Resonant Photoionization

Notice

The 1986 NASA/RECON Users Conference scheduled for September 25 and 26, and the associated training sessions and clinic are cancelled.

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New Publications

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Significant NASA Inventions Available for Licensing in Foreign Countries (NASA SP-7038(08))

The foreign licensing program of the National Aeronautics and Space Administration serves to promote and utilize foreign patent rights vested in the Administration. The objective of this program is to extend the patent coverage on valuable NASA-owned inventions to various foreign countries. This publication provides basic information and drawings concerning items available for licensing in foreign countries.

Space Station Systems, A Bibliography with Indexes (NASA SP-7056(01))

This semiannual bibliography is the latest addition to NASA's Continuing Bibliography series. It is designed to be helpful to the researchers, designers, and managers engaged in the design and development of technology, configurations, and procedures that enhance efficiencies of current and future versions of a Space Station. This literature survey lists 624 reports, articles

and other documents announced between January 1, 1985 and June 30, 1985 in *Scientific and Technical Aerospace Reports (STAR)*, and *International Aerospace Abstracts (IAA)*. The coverage includes documents that define major systems and subsystems, servicing and support requirements, procedures and operations, and missions for the current and future Space Station. In addition, analytical and experimental techniques and mathematical models required to investigate the different systems/subsystems and conduct trade studies of different configurations, designs, and scenarios are included. A companion continuing bibliography, *Technology for Large Space Structures, NASA SP-7046*, is also available.

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Scientific and Technical
Information Branch

JULY/AUGUST 1986

Document Orders — How Are They Invoiced?

As you are well aware, both NASA-funded and certain Non-NASA documents in the A, N, and X accession series are available for a fee to appropriately registered users. One of the more frequently asked questions about this ordering service concerns invoicing.

All orders filled by the NASA STI Facility are invoiced on a monthly basis by RMS Associates. Fees are based on the NTIS price code as shown in the citation or page count of each document ordered.

If the Facility is unable to fill an order for an 'A' accession, the order is forwarded directly to AIAA/TIS. AIAA/TIS requires prepayment. If you do not have a deposit account with them, they will send you an invoice prior to filling the order. AIAA/TIS charges \$10.00 per item up to 50 pages; additional pages are \$0.25 each. Remember, copyrighted works should be obtained directly from their publishers.

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Limit is 50 citations per order

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 - STK — Stock Copy Only

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Registered users may also call Document Distribution at (301) 621-0153 to place an order.

From the Centers

Personnel Changes at Lewis Research Center

George Mandel, Chief, Technical Information Services Division, informs us that his staff is now organized as follows:

- Richard Texler, Deputy Chief, Technical Information Services Division
- Ernie Walker, Branch Chief, Photographic and Printing Branch
- Paul Riedel, Deputy Branch Chief, Photographic and Printing Branch
- Steve Stefka, Deputy for Printing
- Sue Butts, Deputy for Manuscript Support

LeRC Publishing Activities

In recent years, Lewis has hosted several research conferences at the Center at which there were several hundred attendees. Our program experience was that, on occasion, we would be asked to provide "figure preprints" to the attendees as notebooks during the presentations. However, in recent years, we have been requested by the Lewis conference coordinators to provide the attendees with the final Conference Proceedings which have the complete text and figures or the abstracts and figures. During the month of May, two such NASA Conference Publications were published at Lewis and made available to the attendees when they registered at the conference. These were:

- NASA CP-2423, 20th Aerospace Mechanisms Symposium, May 7-9; and
- NASA CP-2427, Structural Ceramics, May 20-21.

Mr. Mandel also reports that Lewis received inquiries from a large number of university and industry users regarding the three Lewis brochures announced in the March 1986 issue of this Bulletin.

Note: If any of you have similar announcements or articles of general interest to the STI community, please provide them to us. See the last page of this Bulletin for mailing information.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

USSR Space Life Sciences Digest, Issue 5 (NASA CR-3922(05))

This document contains abstracts of 37 papers recently published in Russian language periodicals and bound collections of 11 new Soviet monographs. Selected abstracts are illustrated with figures and tables from the original. Additional features include a translated interview, a book review and a conference description and abstracts or titles of relevant Soviet papers presented in English at international conferences. The materials covered in this issue have been identified as relevant to 26 areas of aerospace medicine and space biology. These areas are biological rhythms, biospherics, body fluids, botany, cardiovascular and respiratory systems, endocrinology, exobiology, genetics, group dynamics, habitability and environment effects, health and medical treatment, hematology, human performance, immunology, mathematical modeling, metabolism, microbiology, morphology and cytology, musculoskeletal system, neurophysiology, nutrition, perception, personnel selection, psychology, and radiobiology.

Price: \$16.95

NTIS Order No.: 86N25109

Applications of Tethers in Space, Executive Summary (NASA CP-4244)

The proceedings of the second workshop on Applications of Tethers in Space, sponsored jointly by the Italian National Space Plan, CNR, and NASA, held in Venice, Italy, October 15-17, 1985, are summarized in this document. The workshop was attended by persons from government, industry, and academic institutions to discuss the rapidly evolving area of tether applications in space. Many new applications were presented at the workshop, but, more important, existing applications were revised, refined, and prioritized as to which applications should be implemented and when. The workshop concluded with summaries developed individually and jointly by each of the applications panels.

Price: \$9.95

NTIS Order No.: 86N25794

Fourteenth NASTRAN Users' Colloquium (NASA CP-2419)

This publication contains technical papers contributed during the Colloquium held in San Diego, California, on May 5-9, 1986. The authors review general application of finite element methodology and the specific application of the NASA Structural Analysis System, NASTRAN, to a variety of static and dynamic structural problems.

Price: \$28.95

NTIS Order No.: 86N25823

Present State of Knowledge of the Upper Atmosphere: An Assessment Report (NASA RP-1162)

This report presents an assessment of the state of knowledge of the upper atmosphere as of January 1986. It discusses the physical, chemical, and radiative processes which control the spatial and temporal distribution of ozone in the atmosphere; the predicted magnitude of ozone perturbations and climate changes for a variety of trace gas scenarios; and the ozone and temperature data used to detect the presence or absence of a long-term trend. This assessment report was written by a small group of NASA scientists, was peer reviewed, and is based primarily on the comprehensive international assessment document entitled "Atmospheric Ozone 1985: Assessment of Our Understanding of the Processes Controlling its Present Distribution and Change" to be published as the World Meteorological Organization Global Ozone Research and Monitoring Project Report No. 16.

Price: \$16.95

NTIS Order No.: 86N25911

USSR Space Life Sciences Digest Index to Issues 1-4 (NASA CR-3922(06))

This document is an index to issues 1-4 of the USSR Space Life Sciences Digest. It is arranged in three sections. In section 1, abstracts from the first four issues are grouped according to subject. Section 2 lists the categories according to which Digest entries are grouped and cites additional entries relevant to that category. Key words are indexed in section 3.

Price: \$11.95

NTIS Order No.: 86N25971

Second Symposium on Chemical Evolution and the Origin and Evolution of Life (NASA CP-2425)

This symposium was held at the NASA Ames Research Center, Moffet Field, California, July 23-26, 1985. The NASA Exobiology principal investigators reported their recent research findings in the following areas: cosmic evolution of biogenic compounds, prebiotic evolution (planetary and molecular), early evolution of life (biological and geochemical), evolution of advanced life, solar system exploration, and the Search for Extraterrestrial Intelligence (SETI).

Price: \$16.95

NTIS Order No.: 86N26844

Stopwords in the STI Database

We think you will find this alphabetical listing of stopwords for text searching in file collections D, O, B and A a handy retrieval tool. Stopwords are words which are not directly searchable in any of the text fields, such as title and abstract.

A	DESCRIBED	NEVERTHELESS	THEM
ABOUT	DESIGN	NO	THEN
ACCORDING	DID	NOR	THERE
ACCORDINGLY	DO	NOT	THEREBY
ADDRESSES	DOES	NOTE	THEREFORE
AGAIN	DOING	NOW	THEREIN
ALL	DONE	NUMBER	THEREOF
ALMOST	DUE	OF	THEREON
ALONG	DURING	OFF	THERETO
ALSO	EACH	OK	THESE
ALTHOUGH	ET	ON	THEY
ALWAYS	EVERY	ONE	THIS
AN	FOR	ONLY	THOSE
AND	FORTHCOMING	OR	THROUGH
AND/OR	GAVE	OTHER	THROUGHOUT
ANOTHER	GET	OTHERS	THUS
ANY	GETS	OWN	TIME
ANYTHING	GIVE	PAR	TIMES
ARE	GIVEN	PER	TO
AROUND	GIVES	PERHAPS	TOO
AS	GIVING	PERIOD	TOTAL
ASK	GO	PRESENTS	UNDER
ASKED	GOES	PRESENTED	UP
ASKING	GOING	PRESS	US
ASKS	GONE	QUITE	USE
ASSOCIATION	HAD	RATHER	USED
AT	HAS	REALLY	USER
AUTHOR	HAVE	REPORT	USES
AUTHORS	HAVING	REPORTED	USING
AUTHOR-IDENTIFIED	HE	REPORTS	USUALLY
AVAILABLE	HERE	RESULT	VERY
BE	HEREBY	RESULTED	VIA
BECAME	HEREIN	RESULTING	WANT
BECAUSE	HOW	RESULTS	WAS
BECOME	HOWEVER	SAY	WE
BECOMES	IF	SEE	WELL
BEEN	IN	SEEN	WENT
BEFORE	INDEED	SHALL	WERE
BEHIND	INTO	SHE	WHAT
BEING	IS	SHOW	WHEN
BESIDE	IT	SHOWED	WHERE
BIMONTHLY	ITS	SHOWING	WHEREAS
BIWEEKLY	LATELY	SHOWN	WHEREOF
BRINGING	LIKELY	SHOWS	WHETHER
BUT	MADE	SIT	WHICH
BY	MAKE	SITTING	WHICHEVER
CAME	MAKES	SO	WHILE
CAN	MAKING	SOME	WHO
CANNOT	ME	SOMETHING	WHOM
CO	MORE	SUB	WHOSE
COME	MOST	SUCH	WILL
COMES	MUCH	SYSTEM	WITH
COMING	MUST	SYSTEMS	WOULD
CORP	MY	THAN	WHY
COULD	NEED	THAT	YOU
DATA	NEEDED	THE	YOURS
DEPT	NEEDS	THEIR	

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New Thesaurus Terms

Subject terms added to the NASA Thesaurus in June and July 1986 are listed. These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

BISMALEIMIDE
BORON-EPOXY COMPOUNDS
TRANSFERRED TO BORON-EPOXY COMPOSITES
FAINT OBJECTS
MICROBURSTS
SELENIUM ISOTOPES
SPACE STATION POWER SUPPLIES
SPACE STATION PROPULSION
STARPROBE MISSION
STARPROBE SPACECRAFT
STRING THEORY
SN (DOES NOT INCLUDE CLASSICAL STRING
DYNAMICS)
SUPERSTRING THEORY
USE STRING THEORY
TERBIUM COMPOUNDS
WHITE BLOOD CELLS
TRANSFERRED TO LEUKOCYTES

NASA/RECON Display Enhancements

Two modifications to the display format have made certain NASA/RECON records easier to read.

Descriptors in the RTOP (W70K) Series

Many of you have noticed the absence of delimiters between terms in the descriptor field on RTOP re-

cords. This gives the appearance of a run-on sentence; you can not tell where one descriptor ended and another began. In an effort to standardize record format, a delimiter has been inserted between terms. A slash (/) appears between each term making the RTOP record display format consistent with other record types in the NASA STI database.

Primary Analytic Notes

Another modification concerns the Primary Analytic Note (PRM—for display only) field on STAR (N10K) accessions. Formerly the PRM field was concatenated onto the Sales and Pricing (SAP—for display only) field. Now the PRM appears on a separate line below the SAP field. This provides a clearer record display.

STI-RECON Bulletin and Tech Info News
is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, Md. 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, NASA STI Facility.



National Aeronautics and
Space Administration

STI-RECON Bulletin & Tech Info News

Scientific and Technical
Information Branch

SEPTEMBER 1986

Standing Order Service for NASA S&T Publications

Effective October 1, 1986, NASA will institute, on a standing order basis, charges for NASA publications currently distributed automatically in paper copy to U.S. Government organizations, their contractors, and non-contractor domestic users free of charge. These publications include NASA bibliographies and the NASA scientific and technical (S&T) report series such as Conference Publications (NASA CP), Reference Publications (NASA RP), and Special Publications (NASA SP). Distribution of the NASA bibliographies to registered NASA R&D contractors will continue without charge. The automatic distribution of microfiche will not be affected by the standing order service at this time.

The standard price for paper copy of a NASA publication on standing order is \$14.50. This service provides a standing order option in which you are invoiced for only those publications received. Invoices are sent on a monthly basis only after sufficient time has elapsed for you to receive the publications ordered.

Subscribers to the NASA STAR Automatic Document Distribution Service (ADDS) may wish to take advantage of this new service. The standing order option provides a pay as you go plan rather than the payment of a large sum in advance.

For more information contact Marion Leiby at the NASA STI Facility (301) 621-0153.

Document Control Marking Study

The Federal Commerce, Energy, NASA, Defense STI (CENDI) agencies use various statements to indicate limitations placed on distribution of selected documents. The criteria for and the intentions behind the marking of these limitations are not always self-evident. When receiving reports from one of the other

agencies, it is not always possible for a recipient to understand readily from the marking what degree of control must be exercised in handling and further disseminating the information.

An interagency guide is being prepared to compare control markings of U.S. Government scientific and technical documents. This guide can be used in CENDI agencies so that working levels in each agency can understand and properly control documents from the other agencies. A long-range goal of this project is to establish greater commonality among CENDI organizations in policies and procedures for distribution control and marking of scientific and technical information.

Each CENDI agency's pertinent regulations and directives have been collected and reviewed and similarities and differences identified. A cross-reference chart has been prepared to display relationships of control markings among CENDI agencies. The task group met with appropriate individuals in Federal organizations and committees who are involved in policy setting for security and export-control to gain as full a picture as possible of the STI control problem. A report has been prepared including recommendations for changes to information control and policies and procedures to achieve greater commonality among CENDI agencies.

For more information contact C.W. Hargrave at NASA Headquarters (202) 453-2936.

Notice To All NASA/RECON Users

We have revised the explanatory front matter which is distributed with the literature searches processed by the NASA STI Facility. This material is now available for you to reproduce and distribute with the literature searches processed through your libraries. For your copies, contact RECON Services at (301) 621-0151.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20420 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

NASA and General Aviation (NASA SP-485)

The National Advisory Committee for Aeronautics (NACA) and its successor the National Aeronautics and Space Administration (NASA) have played a vital role in the development of American aviation. This book examines some of the past achievements of both NACA and NASA in aeronautical experimentation. It describes the NASA Office of Aeronautics and Space Technology's General Aviation Research and Technology Program. It covers the background and origin of the program as well as the overall objectives and scope. A detailed look at how general aviation functions and how NASA helps keep it on the cutting edge of technology in airfoils, airframes, engines, electronics, commuter travel, environmental concerns, air traffic control, and agricultural development is given.

Price: \$6.50

GPO Stock No: 003-000-00984-4

Applications of Tethers in Space, Volumes 1 and 2 (NASA CP-2422)

The proceedings of the second workshop on Applications of Tethers in Space, sponsored jointly by the Italian National Space Plan, CNR, and NASA, held in Venice, Italy, October 15-17, 1985, are presented. The workshop was attended by persons from government, industry, and academic institutions to discuss the rapidly evolving area of tether applications in space. These two volumes contain the complete documentation of the workshop, including opening addresses, tether fundamentals, and panel reports and summaries.

Price: \$40.95 each volume

NTIS Order No: 86N28407(vol.1), 86N27644(vol.2)

19th International Cosmic Ray Conference, Volumes 9 and 10 (NASA CP-2376)

These volumes contain papers submitted for presentation at the 19th International Cosmic Ray Conference, held on the campus of the University of California, San Diego in La Jolla, Calif., August 11-23, 1985. The conference is held every other year. Volume 9 contains invited, rapporteur, and highlight papers. Volume 10 contains a complete author index to the previous 9 volumes and a list of conference participants' names and addresses.

Price: Boxed set \$200

NTIS Order No: 86N28904

El Nino and Outgoing Longwave Radiation: An Atlas of Nimbus-7 Earth Radiation Budget Observations (NASA RP-1163)

Five years of broad-band Earth Radiation Budget (ERB) measurements taken by the Nimbus-7 ERB experiment have been archived. This five-year period included the 1982-1983 El Nino/Southern Oscillation event, which reached its peak in January 1983. An outgoing longwave radiation subset of the data, for the period June 1980 - October 1983, has been processed to enhance spatial resolution. This atlas contains the analyses of the resultant fields.

1986 NASA Thesaurus Supplement (NASA SP-7053(Suppl. 1))

The May 1986 *NASA Thesaurus Supplement* updates the 1985 edition of the *NASA Thesaurus*, NASA SP-7053. Parts 1 and 2 update the *Hierarchical Listing* and the *Access Vocabulary*, respectively. The *Supplement* contains complete hierarchies for all new terms; additions to existing hierarchies are not included but may be found in the online *NASA Thesaurus*. Part 3 of the *Supplement* is a list of *NASA Thesaurus* definitions, a new feature. Definitions are given for most terms added to the *NASA Thesaurus* since 1976, and the list contains over 1500 terms. Definitions of the more common or general scientific terms are given a NASA slant, if one exists. Items such as place names and specific models of computers are not defined since these definitions are readily available in specialized sources. The definitions list also includes the date the term was added to the *NASA Thesaurus*. Part 4 includes any changes, deletions, etc since the last *Supplement*. Any comments or suggestions about this publication, including suggestions for new terms, should be addressed to: Lexicographer, NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, Maryland 21240.

Price: \$16.95

NTIS Order No.: NASA SP-7053(Suppl. 1)

Astronautics and Aeronautics, 1977 (NASA SP-4022)

This publication is a chronology of events during the year 1977 in the fields of aeronautical and space research, development, activity, and policy. It includes appendixes, an index, and illustrations.

Machine Aided Indexing (MAI) at the NASA STI Facility

-submitted by June P. Silvester

In line with its commitment to automation, the NASA STI Facility is instituting machine aided indexing (MAI). The NASA STI Facility receives input from other agencies in machine-readable form on magnetic tape and selects material that is relevant to the NASA mission. The original indexing of this material becomes input for MAI. Work began in January 1982 to develop the NASA Lexical Dictionary (NLD), a translation system that operates in two modes - subject switching and phrase matching.

Subject Switching

Subject switching is the translation of a set of subject terms from one controlled vocabulary to another. The Facility subject switches groups of terms from the controlled vocabularies of the Defense Technical Information Center (DTIC) and the Department of Energy (DOE). For example, DTIC's term "abrasion" and "resistance" are translated to the single NASA term "abrasion resistance", the single DTIC term "femoral arteries" to the NASA terms "arteries" and "femur", DTIC's "drilling machines" to NASA's "boring machines", "adenine" to "adenines", "bases(chemistry)" to "bases (chemical)" and so on. DOE's terms are subject switched in a similar fashion. The subject switching portion of the NLD is essentially a large file of USE references for concepts expressed by both individual and combinations of terms that are assigned to a single document. DTIC to NASA subject switching became fully operational in the summer of 1984. DOE to NASA subject switching has been operational since 1985.

Phrase Matching

The phrase matching mode is used for MAI of all input other than the DTIC and DOE controlled vocabularies. This generally means titles and abstracts, but any natural language text or other controlled vocabulary terms can be handled. NASA's current emphasis is on a two step process which automatically selects words and phrases from titles and abstracts and translates them into NASA subject terms. The process uses a recognition dictionary to provide syntax; a machine phrase selection (MAPS) program to delineate phrases, and the Phrase Matching file and an Access Routine to translate the input into NASA subject terms. This programming is unique to NASA.

Natural Language MAI

Natural language MAI went operational at the Facility in mid-July 1986 scanning the titles and abstracts of NASA's file of Research and Technology Objectives and Plans. A preliminary test indicated that the NLD is able to completely translate more than 80% of all phrases. Many other phrases are partially translated.

The goal of MAI is to present indexers with a set of NASA subject terms appropriate for the content of the document for review. In an MAI environment, indexers concentrate on review and on feedback to the MAI system, in effect creating and maintaining an 'expert system'. It is important to emphasize that MAI means machine aided indexing. Indexers actively assist in making the selections of NASA subject terms for the translations of input phrases. They have an on-going opportunity and responsibility to provide feedback to improve the MAI operations.

Although based on an MAI system established at DTIC, the NASA Lexical Dictionary system is unique and represents a major technical advance in the field of information science.

For more information consult the following publications:

An operational system for subject switching between controlled vocabularies: a computational linguistics approach, J. P. Silvester, R. Newton, P. H. Klingbiel, NASA CR-3838 (October 1984) 85N11903.

Phrase structure rewrite system in information retrieval, P. H. Klingbiel, Information Processing and Management, Vol. 21, No. 2, pp. 113-126, 1985. 85A44770.

NASA STI Database Subject Content

The NASA STI database contains more than two and a half million documents emphasizing aeronautics, space, and supporting disciplines. The subject content of the collection is in scope with NASA's mission, with emphasis shifting as NASA's mission evolves. The chart below depicts the current subject content by major subject division of the database.

Subject Division	Percent
Aeronautics	7
Astronautics	5
Chemistry and Materials	9
Engineering	26
Geosciences	14
Life Sciences	5
Mathematical and Computer Sciences	6
Physics	11
Social Sciences	1
Space Sciences	16
Total	100

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Key Contacts at the NASA STI Facility

For assistance in matters relating to the varied aspects of NASA/RECON contact any of the following key personnel at the NASA STI Facility, P.O. Box 8757, BWI Airport, MD. 21240.

General Manager
Robert B. Johnson
(301) 621-0200

Accounting
Mary Jo Minnick
(301) 621-0222

RECON Services/Training
Dian A. Marinacola
(301) 621-0154

Bulletin Editor
Jacqueline M. Streeks
(301) 621-0105

NASA/RECON Hot-Lines
Retrieval Assistance
(301) 859-5300 (Baltimore)
ext. 150
(301) 621-0150

User Registration
Marion Leiby
(301) 621-0153

Connect Assistance
Mike Moriarty
(301) 621-0300

Document Distribution
Dolores Johnson
(301) 621-0146

Document Evaluator
Philip N. French
(301) 621-0111

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in August 1986 are listed. These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103).

ALTIMETRY
ANTARCTIC OCEAN
CHUCKCHI SEA
transferred to CHUKCHI SEA
ELECTRON AFFINITY
IMPACT SENSITIVITY
use IMPACT RESISTANCE

MENDELEVIVUM
MOLYBDENUM ISOTOPES
NEGATIVE ELECTRON AFFINITY
NOBELIUM ISOTOPES
PALLADIUM ISOTOPES
SATELLITE ALTIMETRY
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Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: Distribution and Support Services Division, NASA STI Facility.

NASA/RECON for Historically Black Colleges & Universities

About 20 letters indicating interest have been received in response to a letter from Acting Administrator Graham to presidents of Historically Black Colleges and Universities (HBCU) offering them access to the NASA/RECON online bibliographic system. Training will be provided under a project previously developed through a grant to Southern University, also an HBCU, to train undergraduate scientists and engineers in the use of advanced information systems. Those schools completing training will be permitted free access to NASA/RECON for up to two years to facilitate initiation of continued instruction as a regular part of the college's curricula.

For more information, contact John Wilson at NASA Headquarters. (202) 453-2904.

CENDI* Information Transfer Standards Project

A CENDI working group has been tasked to identify or develop standards for transfer of information in text or graphic form from an information source to another location where that information can be searched, manipulated and republished on demand to satisfy the needs of searchers.

Currently, text generators such as word processing machines and typesetters do not use standard formatting codes. The characters are coded generally to an ASCII standard but the page format may follow many different codes for formatting the text. Further, if a page contains images other than text then those images may have been produced by many different techniques such as photolithography, bit mapping, vector coding, etc. The text and image are often combined using photographic processes. However, if advanced computer graphics and word processing techniques are used to develop

the page no single standard is recognized to produce the information content and formatting.

The major benefits from this project to the CENDI agencies will be realized when full text and image storage systems are used. Electronic demand printing systems are now under consideration and these will further develop into systems that will be capable of storing text and image information that can be searched for its information and graphics content. Without standards for text formatting and image coding, interpretation of this type of information by central repositories using digital storage systems will not be feasible.

The effort will be coordinated with the National Bureau of Standards and its sponsored committee The Federal Council on Computer Storage Standards and Technology. This will provide contacts for investigation of any similar efforts in this area. A review of all applicable standards and accepted formats will be made to include any de facto standards currently in use. Recommendations will be made to CENDI for a standard for page formatting commands for text and graphics to allow electronic transfer and subsequent information content analysis.

For more information contact Rex Talbert at NASA Headquarters, (202) 453-2155.

* Federal Commerce, Energy, NASA, Defense STI managers.

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Recent Publication

History at NASA, NASA HHR-50

This publication replaces the seventh edition of *Guide to Research in NASA History* by Alex Roland. It was written as a guide for historians writing for the NASA History Office. It covers the establishment of the NASA History Program in 1959 and the role of the NASA History Advisory Committee. Excerpts from book reviews of major NASA History Office publications are included as well as a complete list of NASA history publications. Special emphasis is given to the historical documents collections held by NASA Headquarters and several of the Centers.

History at NASA is available from the NASA History Office at NASA Headquarters, Mail Code LBH, Washington DC 20546.

Free Literature Search Service Discontinued

Effective September 30, 1986 the NASA STI Facility discontinued free literature search services provided for organizations other than NASA installations. A charge of \$80.00 will be made for each search performed on the NASA STI database by the NASA STI Facility.

A copy of the Literature Search Request Form (NHQ Form 84) submitted together with the completed search printouts will accompany each invoice for payment. Each search will be invoiced separately. The invoice will be prepared by RMS Associates, the present contractor for the NASA STI Facility, and will be mailed directly to the requesting activity within an organization.

Those who are not currently accessing the NASA STI database via the NASA/RECON online retrieval system may want to obtain such access. For further information on accessing NASA/RECON contact John Wilson at NASA Headquarters, (202) 453-2904 or FTS 453-2904.

User's Reference Manual

A limited supply of the *NASA/RECON User's Reference Manual* issued in 1984 is currently available from the NASA STI Facility. This manual is designed to serve the reference needs of all levels of users, novice to advanced. If you would like to have additional copies of the *Manual* contact Dian Marincola, RECON Services (301) 621-0150.

NASA/RECON Demo at FLICC Workshop

The Federal Library and Information Center Committee (FLICC) and its operating network, FEDLINK, sponsored the first in a series of Regional Workshops on Accessing Federal Databases. The workshop, held in Washington, DC on September 9 to 11, 1986, featured demonstrations and training on nine Federal databases over a three day period.

Participating Federal databases included: NASA/RECON, National Aeronautics and Space Administration; CENDATA, Census Bureau; NALIS/NEDRES, National Oceanic and Atmospheric Administration; ERIC, National Institute of Education; DROLS, Defense Technical Information Center; GPO Monthly Catalogue, U.S. Government Printing Office; AGRICOLA, U.S. Department of Agriculture; NLM/MEDLARS, National Library of Medicine; and NTIS, National Technical Information Service.

Each day of the workshop included training and demonstrations on three different databases, concurrently. The morning sessions focused on an overview of each of the three databases, while the afternoon sessions provided hands-on practice. The attendees were enthusiastic about the workshop. The training exercises enabled them to successfully access the system, execute a sample search, and printout results.

For information on future workshops contact Chris Zirps at FLICC (202) 287-1372.

Notice To Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 453-2904.

New Thesaurus Terms

Subject terms added to the *NASA Thesaurus* in August 1986 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. A complete list of *NASA Thesaurus* definitions, constructed by NASA's lexicographers, is given in the *NASA Thesaurus Supplement*, NASA SP-7053 (Supp. 1) issued in May, 1986. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103).

DATA TRANSFER (COMPUTERS)

The technique used by the hardware manufacturer to transmit data from computer to storage device or from storage device to computer; usually under specialized program control.

DIFFRACTION RADIATION

Electromagnetic radiation excited by an electron flux passing near a diffractive, periodic structure, such as a wiggler magnet in a free electron laser.

DIGITAL CIRCUITS

use **DIGITAL ELECTRONICS**
LOGIC CIRCUITS

DIGITAL ELECTRONICS

Circuits in which there are usually only two states possible at any point. The two states can represent any of a variety of binary digits (bits) of information.

DIRECT BROADCAST SATELLITES

Domestic satellites used for direct TV transmission to home receivers.

EXOS SATELLITES

EXOS-A SATELLITE

EXOS-B SATELLITE

EXOS-C SATELLITE

EXTARS

Transferred to **X RAY STARS**

FALSE ALARMS

In general, the unwanted detection of input noise. In radar, an indication of a detected target even though one does not exist, due to noise or interference levels exceeding the set threshold of detection.

HAZ (METALLURGY)

use **HEAT AFFECTED ZONE**

HEAT AFFECTED ZONE

That portion of the base metal in which the structure or properties have been altered by the heat of a welding or gas-cutting operation.

HIP (PROCESS)

use **HOT ISOSTATIC PRESSING**

HOT ISOSTATIC PRESSING

A thermomechanical process for forming metal-powder compacts or ceramic shapes by use of isostatically applied gas pressure in order to achieve high density in the treated material.

INFRARED SOURCES (ASTRONOMY)

Celestial bodies or astronomical regions emitting a large amount of radiation in the infrared portion of the electromagnetic spectrum.

MODEL REFERENCE ADAPTIVE CONTROL

This deals with three parameters: an ideal adaptive control system whose response is agreed to be optimum; computer simulation in which both the model system and the actual system are subjected to the same stimulus; and parameters of the actual system are adjusted to minimize the difference in the outputs of the model and the actual system.

MRAC (SYSTEMS)

use **MODEL REFERENCE ADAPTIVE CONTROL**

PIXELS

Shortened term for 'picture elements'. They are image resolution elements in vidicon-type detectors.

SATELLITE COMMUNICATION

Use of communication satellites, passive reflecting belts of dipoles or needles, or reflecting orbiting balloons to extend the range of radio communication by returning signals to earth from the orbiting object, with or without amplification.

STAR FORMATION

The formation and birth of a star.

X RAY STARS

Stars with strong emission in the X-ray portion of the electromagnetic spectrum.

ZONAL CIRCULATION

use **ZONAL FLOW (METEOROLOGY)**

ZONAL FLOW (METEOROLOGY)

The flow of air along a latitude circle; more specifically, the latitudinal (east or west) of existing flow.

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Space Administration
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SPINOFF - Technology Twice Used

Every year NASA publishes a report entitled *Spinoff*. This publication is intended to foster increased awareness on the part of the general public that practical benefits do result from government sponsored aerospace research and development activities. It also presents in an attractive format a synopsis of the agency's major mission oriented programs. More than 100,000 copies are distributed annually.

The nation derives secondary benefits from aerospace research and development programs in subtle, often obscure, ways. More often than not, the user or ultimate consumer is unaware that an improved process or product he may use or buy embodies elements of technology that originated in aerospace related research and development projects funded completely or in part by the Federal government. The *Spinoff* publications describe such practical benefits from the national investment in aerospace research. We seek your assistance in helping us to get this message to the general public.

Your organization may have developed new or improved products or processes that incorporate elements of a technology resulting, at least partially, from work performed for NASA. If any such innovations are embodied in the design of products or processes that you offer commercially contact Walter Heiland at the NASA STI Facility (301) 859-5300 ext. 241, so we can describe your work in a forthcoming edition of *Spinoff*.

If you wish to receive a copy of *Spinoff 1986* call (301) 859-5300 ext. 243 or write: NASA STI Facility, Attn: TU Office, P.O. Box 8757, BWI Airport, MD 21240.

Furthermore, a wealth of information in the *Index to NASA Tech Briefs 1981* is now available at \$10.00 per copy from RMS Associates, P.O. Box 8757, BWI Airport, MD 21240. Further indices are forthcoming in the near future and will be announced in this *Bulletin* as well as in *NASA Tech Briefs*.

STI-RECON Bulletin and Tech Info News

is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the *RECON* Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2904.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

NASA/RECON Display Enhancement - SAP Note

NASA/RECON users will notice a small but useful change in the way NTIS availability is displayed. Beginning with STAR issue 20 (accession year 1986), NTIS availability is incorporated in the text which follows the display mnemonic *SAP* (*Sales Agency and Pricing*). Under the new format, a typical *SAP* note will look like this:

SAP: Avail: NTIS HC A02/MF A01

In earlier records, the *SAP* note contained only the price codes; the statement "AVAIL.NTIS" was displayed on the previous line. The new format makes for a more legible display. The new display also makes it easier to highlight other sources of availability when this is desired, especially for documents available from SOD (GPO). For example, a NASA Special Publication would have a display like this:

SAP: Avail: SOD HC \$16.00 as 040-000-00999-0;
NTIS MF A01

This would direct the user to SOD as the prime source for (relatively inexpensive) hardcopy.

Official Distribution of STAR Reduced

Effective January 1, 1987, distribution by NASA of the announcement journal, *Scientific and Technical Aerospace Reports (STAR)*, and its Annual Index without charge will be reduced. NASA will continue to provide one free copy of *STAR* per library to domestic registered Federal information centers, NASA R&D contractors, NASA Industrial Applications Centers (IAC's), NASA State Technical Assistance Centers (STAC's), and university/college aerospace programs. Additional copies may

be purchased by subscription from RMS Associates at the address listed below. Registered non-NASA U.S. Government agencies and their R&D contractors may continue uninterrupted *STAR* delivery by submitting a check for \$128.00 (\$77.00 for one copy each of 24 issues and \$51.00 for one copy of the annual index) for one year's subscription to:

RMS Associates
Attn: Registration Activity
P.O. Box 8757
BWI Airport, MD 21240

Public libraries and other domestic recipients may purchase *STAR* from:

Superintendent of Documents
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Attn: Sales Planning Section
P.O. Box 1533
Washington, DC 20402

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NASA/RECON Training Program

The NASA/RECON Training Program for 1987 includes five training sessions, three one-day Basic training sessions and two one-day Advanced training sessions. The ongoing training hot-line telephone service will continue. This service assists the user with specific, on-the-spot, search problems on an as needed basis.

NASA/RECON Hot-lines

(301) 621-0300 hardware & communications
(301) 621-0150 searching

Beginning in January 1987, the NASA STI Facility will charge non-NASA personnel for NASA/RECON training. All non-NASA organizations registered with the Facility are subject to this policy. A revised User Agreement, however, permits one staff member to attend either the basic or advanced training session free of charge at the NASA STI Facility.

Basic RECON session for new users

January 22
March 19
May 19

The Basic training session is designed for the beginning NASA/RECON searcher, preferably with some online experience. The STI database, file and record structure are covered along with the basic RECON system commands. Search strategy formulation, boolean logic and query analysis are emphasized as they pertain to the NASA/RECON system. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1 day \$100/person (Non-NASA personnel),
when held at the NASA STI Facility

Advanced RECON session for experienced users

February 24
April 16

The Advanced training session is designed for the experienced NASA/RECON searcher. Basic text searching is reviewed as well as more indepth text searching techniques. Advanced RECON system features and stored search formulation and editing are also covered. Again, a series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1 day \$160/person (Non-NASA personnel),
when held at the NASA STI Facility

NASA/RECON Training Registration

Pre-registration is required for all training sessions. To register, call RECON SERVICES at (301) 621-0150 between 8 a.m. and 5 p.m. ET, Monday through Friday. If a preferred session is closed, ask to be wait-listed. A confirmation letter and registration packet will be forwarded for each reservation placed.

Reservations may be cancelled or changed up to five business days before the training session. Cancellations after that date and no-shows will be billed the full amount.

Payment Options

- Bill to a standing RECON purchase order
- Bill to a newly issued purchase order
- Pay with company or personal check

Revised Basic Reference Guide Available

The NASA/RECON Basic Reference Guide was revised and reissued in July 1986. The first edition was issued in September 1985. The Basic Reference Guide is designed to help the new NASA/RECON user to sign on to the system and conduct basic searches. It also serves as a "memory jogger" for the experienced user. Instructions are based on use of the "default" file (file collection D), which includes most of the files that comprise the NASA Scientific and Technical Information Database.

For copies of the revised guide contact RECON Services at the NASA STI Facility (301) 621-0150.

Notice To Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 453-2906.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20420 or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

Life Sciences Space Station Planning Document: A Reference Payload for the Life Sciences Research Facility, NASA TM-89188

The Space Station, projected for construction in the early 1990's, will be an orbiting, low-gravity, permanently manned facility providing unprecedented opportunities for scientific research. Facilities for Life Sciences research will include a pressurized research laboratory, attached payloads, and platforms which will allow investigators to perform experiments in crucial areas of Space Medicine, Space Biology, Exobiology, Biospherics and Controlled Ecological Life Support System (CELSS). This document provides the range and scope of typical life sciences experiments which could be performed on the Space Station.

Price: \$16.95

NTIS Order No. N86-30302

NASA Oceanic Process Program - Annual Report - Fiscal Year 1985, NASA TM-88987

This report provides an overview of recent accomplishments, present activities, and future plans. Although the report was prepared for fiscal year 1985, the period covered by the Introduction extends to June 1986. Sections provide summaries of current flight projects and definition studies, brief descriptions of individual research activities, and a bibliography of refereed journal articles appearing within the past two years.

Price: \$22.95

NTIS Order No. N86-31198

NASTRAN User's Manual volumes I and II, NASA SP-222(08)

This manual describes how to input data into NASTRAN and how to control its processing. It includes a general discussion of structural modeling with a description of each modeling tool available. Each type of element is discussed in terms of how it can be used, what input is required, and what type of output can be obtained. The control and input cards of the NASTRAN data deck are presented in detail. This manual also contains a description of the Rigid Formats, Direct Matrix Abstraction Programming (DMAP), and plotting.

Available from COSMIC, Athens, Georgia 30602

The Suitability of Various Spacecraft for Future Space Applications Missions, NASA TM-88986

The Space Applications Advisory Committee (SAAC) of NASA's Advisory Council was asked by the Associate Administrator for Space Science and Applications to consider the most suitable future means for accomplishing space application missions. To comply with this request, SAAC formed a Task Force whose report is contained in this document. The Task Force examined the suitability of likely future spacecraft options for supporting various types of application mission payloads. These options include a permanent manned space station, the Space Shuttle operating in a sortie mode, unmanned platforms that integrate a wide variety of instruments or other devices, and smaller free fliers that accommodate at most a few functions. This report summarizes the results obtained by the Task Force. It describes the approach utilized, the findings and their analysis, and the resulting conclusions.

Price: \$9.95

NTIS Order No. N86-27409

Personnel Changes at the Centers

GISS

David J. Purdy recently became Librarian at the Goddard Institute for Space Studies. He is fulfilling the duties of the positions vacated by Ms. Sarah Scott and Ms. Sharon Abar.

Author Full Names Available on NASA/RECON

Effective with STAR 1987 accessions, the Author's full name will be available for display on NASA/RECON. The Display, Type and Print of a citation will output the full name as it is carried in the data base, i.e., last name, first name, and middle initial. This new NASA/RECON feature will not be available on citations accessioned prior to the first issue of STAR 1987.

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Postal Manual) Do Not Return

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in October 1986 are listed. Definitions are given for selected terms. These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AMINO RADICAL

LAN (COMPUTER NETWORKS)
use LOCAL AREA NETWORKS

MAGELLAN PROJECT (NASA)

A Venus exploratory mission to acquire radar imagery and topographic profiles of the planet surface and determine the characteristics of the Venusian gravity field. (This term is used to designate general project reviews, chronologies, project management and planning, etc.)

MAGELLAN SPACECRAFT (NASA)

A Venus probe incorporating Voyager and Galileo hardware designs equipped with a synthetic aperture radar system to acquire surface imagery, altimetric profiles, and surface radiothermal emissivities. Earth-based Doppler radio tracking of the spacecraft will be used to derive gravimetric data. (This term designates the spacecraft intrinsic and support hardware, instrumentation and analysis of acquired data.)

MAN-COMPUTER INTERFACE

The interface between man and its interrelationships including ergonomic factors.

MISSION ADAPTIVE WINGS

PERMANENT MAGNETS

SOLAR TESTS

The ability of hardware to test itself to a specification.

SOLAR DYNAMIC POWER SYSTEMS

Electric power systems using a solar heated working fluid to drive a turbo alternator. Primary applications are for space stations and spacecraft.

STIRLING ENGINES

SYSTOLIC ARRAYS

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is distributed to established users to inform them about NASA's scientific and technical information products and services.

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Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

1987

Contributors to the NASA STI Database

At the heart of the NASA Scientific and Technical Information System is a database of aerospace information containing more than two and a half million documents. Information added to the database comes from a variety of sources, including the following:

Source	Percent
NASA & Contractors	22
DoD & Contractors	15
DoE & Contractors	7
Other Domestic	20
Exchanges/Other Foreign	36
TOTAL	100

Most of the documents collected are unclassified and unlimited in terms of availability, but a small percentage is either classified or limited for various reasons.

The foreign material comes from over 130 countries and more than 600 exchange agreements. Of the USSR and other foreign material, about 85 percent is in English and the remainder in foreign languages. The latter will be translated into English upon request to the NASA Translations Service.

Three organizations are responsible for collecting and processing information to be included in the database: the NASA Scientific and Technical Information Facility, the American Institute of Aeronautics and Astronautics, and the European Space Agency.

The NASA Scientific and Technical Information Facility (STIF) acquires NASA, NASA contractor, and NASA grantee reports; reports issued by other government agencies, domestic and foreign institutions, universities, and private firms; translations in report form; NASA-

owned patents and patent applications; and dissertation and thesis material emphasizing aeronautics, space, and supporting disciplines. In addition to updating the database and operating the RECON system, STIF produces a variety of current awareness services, including the announcement journal, *Scientific and Technical Aerospace Reports (STAR)*, which is published twice each month.

The American Institute of Aeronautics and Astronautics (AIAA) acquires periodicals (including government-sponsored journals) and books, meeting papers, and conference proceedings issued by professional societies and academic organizations, and translations of journals and journal articles. In addition, AIAA publishes an announcement journal, *International Aerospace Abstracts (IAA)*, twice a month.

The European Space Agency (ESA) provides access to European aerospace literature and plays a vital role in acquisitions, translations, and processing. A 1964 NASA-ESA agreement initiated exchange of reports and computerized data.

Copies of the full text of documents are available in either full size or microfiche form and may be ordered either online or through the local technical library. The online ordering service is described on page 2 of this *Bulletin*.

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Online Ordering Service

Did you know that the NASA/RECON Online Ordering Service allows appropriately registered users to directly order NASA-funded and certain non-NASA documents in the A, N, and X accession series via the use of the ORDER command on NASA/RECON? This newly acquired capability streamlines the overall ordering process for document requesters, making the document request process a faster, more convenient service. To order a certain document, the user has only to enter the accession number using the ORDER command on RECON. A message is then displayed at the user's terminal indicating acceptance, referral or nonacceptance of the order. A user's organizational affiliation with NASA and the availability of the document determine if an order can or cannot be filled (see Online/Offline User Document Authorization Chart below).

The Online Document Ordering procedure requires four parameters, each separated with a slash:

1. Accession number or set number (limit is 50 citations per order)

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- MF Microfiche
- Both Both Hardcopy and Microfiche
- OR Either Hardcopy or Microfiche
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3. Number of copies requested (default is one)

4. Name and address of requester (optional)

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or

ORDER 86N10100/MF/4/Sally Smith Room 301

More information on how to use the NASA/RECON ORDER Command can be found in Section 3.15 of the NASA/RECON User's Reference Manual, and is included in the NASA/RECON User Registration Package. This is the fourth article on the NASA/RECON Online Ordering Service. More indepth features of this system are described in the March, May and July/August 1986 Bulletins.

For more information contact Sue Floyd at the NASA STI Facility, (301) 621-0160.

NASA/RECON ONLINE AND OFFLINE DOMESTIC DOCUMENT REQUEST AUTHORIZATIONS

Mail orders to: NASA STI Facility
Attn: Registration Activity
P.O. Box 8757
BWI Airport, MD 21240

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(301) 859-5300
ext. 146

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NASA "A"	YES	YES	YES	NO	NO	NO	NO	NO
NASA "N"	YES	YES	YES	YES	YES	YES	YES	YES
NASA "X"								
ITAR	YES	YES	YES	NO	NO	NO	NO	NO
EAR	YES	YES	YES	NO	NO	NO	NO	NO
FEDD	YES	YES	YES	YES	YES	NO	NO	NO
LD	YES	YES	YES	YES	YES	NO	NO	NO
NASA ONLY	NO	NO	NO	NO	NO	NO	NO	NO
NASA/NASA CONTR.	YES	NO	NO	NO	NO	NO	NO	NO
NASA CONTR./U.S. GOV'T	YES	YES	NO	NO	NO	NO	NO	NO
U.S. GOV'T ONLY	NO	YES	NO	NO	NO	NO	NO	NO
U.S. GOV'T/GOV'T CONTRACTOR	YES	YES	YES	NO	NO	NO	NO	NO

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Bibliography of Terrestrial Impact
Structures NASA TM-87567 Jan
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the Life Sciences Research Facility,
NASA TM-89188 Nov
Microgravity Science and Applications
Bibliography - 1985 Revision
NASA TM-89178 Nov
NASA and General Aviation, NASA SP-485 Sep
NASA Oceanic Process Program Annual
Report - Fiscal Year 1985, NASA TM-88987 Nov
NASA Thesaurus 1985 Edition, NASA SP-7053 Mar
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Report NASA RP-1162 Jul/Aug
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Revised NASA STI Database Subject Categories

Effective with the first issue of *STAR 1987*, newly revised NASA subject categories were implemented. With the increasing emphasis on space shuttle missions and proposed space station projects involving the processing of materials under microgravity conditions, a new NASA Subject Category, 29. *Materials Processing*, was added.

Other revisions to the NASA subject categories include refinements to several category titles to reflect the current emphasis of NASA's mission. These include: *Spacecraft Communications, Command and Tracking* to *Space Communications, Spacecraft Communications, Command and Tracking*; *Communications* to *Communications and Radar*; *Earth Resources* to *Earth Resources and Remote Sensing*; *Planetary Biology* to *Space Biology*; *Law and Political Science* to *Law, Political Science, and Space Policy*. These current subject categories are listed below.

AERONAUTICS

- 01 Aeronautics (General)
- 02 Aerodynamics
- 03 Air Transportation and Safety
- 04 Aircraft Communications and Navigation
- 05 Aircraft Design, Testing and Performance
- 06 Aircraft Instrumentation
- 07 Aircraft Propulsion and Power
- 08 Aircraft Stability and Control
- 09 Research and Support Facilities (Air)

ASTRONAUTICS

- 12 Astronautics (General)
- 13 Astrodynamics
- 14 Ground Support Systems and Facilities (Space)
- 15 Launch Vehicles and Space Vehicles
- 16 Space Transportation
- 17 Space Communications, Spacecraft Communications, Command and Tracking
- 18 Spacecraft Design, Testing and Performance
- 19 Spacecraft Instrumentation
- 20 Spacecraft Propulsion and Power

CHEMISTRY AND MATERIALS

- 23 Chemistry and Materials (General)
- 24 Composite Materials
- 25 Inorganic and Physical Chemistry
- 26 Metallic Materials
- 27 Nonmetallic Materials
- 28 Propellants and Fuels
- 29 Materials Processing

ENGINEERING

- 31 Engineering (General)
- 32 Communications and Radar
- 33 Electronics and Electrical Engineering
- 34 Fluid Mechanics and Heat Transfer
- 35 Instrumentation and Photography
- 36 Lasers and Masers
- 37 Mechanical Engineering
- 38 Quality Assurance and Reliability
- 39 Structural Mechanics

GEOSCIENCES

- 42 Geosciences (General)
- 43 Earth Resources and Remote Sensing
- 44 Energy Production and Conversion
- 45 Environment Pollution
- 46 Geophysics
- 47 Meteorology and Climatology
- 48 Oceanography

LIFE SCIENCES

- 51 Life Sciences (General)
- 52 Aerospace Medicine
- 53 Behavioral Sciences
- 54 Man/System Technology and Life Support
- 55 Space Biology

MATHEMATICAL AND COMPUTER SCIENCES

- 59 Mathematical and Computer Sciences (General)
- 60 Computer Operations and Hardware
- 61 Computer Programming and Software
- 62 Computer Systems
- 63 Cybernetics
- 64 Numerical Analysis
- 65 Statistics and Probability
- 66 Systems Analysis
- 67 Theoretical Mathematics

PHYSICS

- 70 Physics (General)
- 71 Acoustics
- 72 Atomic and Molecular Physics
- 73 Nuclear and High-Energy Physics
- 74 Optics
- 75 Plasma Physics
- 76 Solid-State Physics
- 77 Thermodynamics and Statistical Physics

SOCIAL SCIENCES

- 80 Social Sciences (General)
- 81 Administration and Management
- 82 Documentation and Information Science
- 83 Economics and Cost Analysis
- 84 Law, Political Science and Space Policy
- 85 Urban Technology and Transportation

SPACE SCIENCES

- 88 Space Sciences (General)
- 89 Astronomy
- 90 Astrophysics
- 91 Lunar and Planetary Exploration
- 92 Solar Physics
- 93 Space Radiation

GENERAL

- 99 General

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New Thesaurus Terms

Subject terms added to the NASA Thesaurus in November 1986 are listed. Definitions are given for selected terms. These terms are currently available on NASA/RECON. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ETHANOL

use ETHYL ALCOHOL

EUKARYOTES

GENES

METHANOL

use METHYL ALCOHOLS

PRECIPITATES

SN (does not include METEOROLOGICAL

PRECIPITATES

PROKARYOTES

RAPID SOLIDIFICATION

use RAPID QUENCHING (METALLURGY)

SOLIDIFICATION

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Notice

The availability of Author Full Names on NASA/RECON has been delayed until March 1987. STAR 08 will be the first STAR issue affected.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2906.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.



National Aeronautics and
Space Administration

STI Bulletin

Scientific & Technical
Information

Scientific and Technical
Information Branch

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FEBRUARY 1987

CENDI* Activities

CENDI has a new member — the National Library of Medicine. Full current roster is:

<u>Agency</u>	<u>Operation</u>	<u>Principal</u>	<u>Planner</u>
U.S. Department of Commerce	National Technical Information Service	Joseph Caponio Director	Ruth Smith
U.S. Department of Energy	Office of Scientific & Technical Information	Joseph Coyne Manager	William Matheny
National Aeronautics and Space Administration	Scientific & Technical Information Branch	Van A. Wentz Chief	John Wilson
U.S. Department of Human Services	National Library of Medicine	Kent Smith Deputy Director	Elliot Siegal
U.S. Department of Defense	Defense Technical Information Center	Kurt Molholm Administrator	Patricia Gaynor

Purpose of the CENDI organization is to develop ways to improve the productivity of Federal R&D through efficient and responsive technical information programs and improved R&D information management programs. Current and projected activities include:

CENDI Users Education Working Group

This group will develop jointly materials that can be used in user education and training programs, such as self-study modules using computer-aided techniques for instruction in the effective use of agency services and products, especially the bibliographic databases. A major goal is to design a module for computer-assisted online searching of a bibliographic database, that can be adapted for use by all CENDI agencies.

Standard Documentation Page Project

The goal of this project is to establish greater commonality among CENDI organizations in the format of data elements included on documentation page. An inter-agency documentation page is being drafted with data elements common to all and optional elements for specific agency requirements.

Study of the Role of Technical Report Literature in Stimulating Technology Innovation

Background survey is being undertaken to bring better

into focus the requirements for an analysis of the use and impact of technical reports in the R&D process. Aspects that may be pursued include report versus journal article, currency of information, new R&D developing out of a report compared to impacting ongoing R&D, relationship between reports, and patents applied for and granted.

CENDI Marketing Presentation Project

The objective of this project is to create a joint CENDI marketing presentation which can be used to promote CENDI and its agencies information programs at conferences, especially those at which the individual agencies will not be exhibiting separately.

Finally, a CENDI Executive Secretary is being recruited. The position has been established at the GS-14 level, and the incumbent will be located at NTIS in Springfield, Virginia. Recruitment is through usual Civil Service channels.

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* Commerce, Energy, NASA, and Defense Information

Dial-Up Access to NASA/RECON

Telenet users may access RECON through 300, 1200 or 2400 baud rate, depending upon the type of modem being used. Check your Telenet phone directory for the appropriate telephone number to use for the corresponding baud rate.

Direct-dial users may only access RECON through a 300 or 1200 baud rate, depending upon the type of modem being used. For Bell 2129 type modems, the phone number is (301) 621-0350. For Vadic 3400 type

modems, the phone number is (301) 621-0360. At this time, direct-dial users cannot access RECON at a 2400 baud rate.

Below we have provided the transmission parameters for RECON access via direct-dial or Telenet from a dumb terminal or microcomputer. We have also listed a few of the more common telecommunication problems that users encounter, along with possible solutions.

Transmission Parameters

Terminal via Direct Dial

DUPLEX = Half
BAUD = 300 or 1200 depending on modem
PARITY = Even or none

Microcomputer via Direct Dial

DUPLEX = Half
CONNECTION TYPE = Bell 1200
CHARACTER FORMAT = 7 Data +
even +1 stop
EMULATOR: TTY

Terminal via TELENET

DUPLEX = Full
BAUD = 300 or 1200 depending on modem
PARITY = Even or none

Microcomputer via TELENET

DUPLEX = Full
CONNECTION TYPE = Bell 1200
CHARACTER FORMAT = 7 Data
+even +1 stop
EMULATOR: TTY

Telecommunications Problems

System responds with double letters.

- Set DUPLEX to Full.

Entry commands are not displayed, but system responds.

- Set DUPLEX to Half.

While typing in or receiving data, some extraneous or 'garbage' characters are displayed.

- Indicates a bad telephone connection. Depends on frequency of erroneous characters, you may want to hang up and try for a better connection.
- BAUD rate may be incorrect.

New Publications Supervisor

We are pleased to announce that Kate Kase has joined the NASA STI Facility staff as Supervisor of Publications. She comes to us from Georgetown University where she was employed as an Academic Records Supervisor. Contact Kate at (301) 621-0152 with Bulletin questions, concerns, and contributions.

Notice To Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 453-2906.

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in January 1987 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. A complete list of NASA Thesaurus definitions, constructed by NASA's lexicographers, is given in the *NASA Thesaurus Supplement*, NASA SP-7053 (Supp. 2) issued in January 1987. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ANIMATION

ANIMATION

use MOTION
deleted

COMPUTER AIDED ENGINEERING

use COMPUTER AIDED DESIGN

COMPUTER ANIMATION

CREW STATIONS

transferred to CREW WORKSTATIONS

EARTH OBSERVING SYSTEM (EOS)

NASA's orbital multisensor observatory system for the long term acquisition of earth sciences data operated in conjunction with an integrated ground-based science information system. (Planned for the 1990's)

EARTH RADIATION BUDGET

EAST PAKISTAN

use BANGLADESH

FLIGHT ENVELOPES

The bounds within which a certain flight system can operate, especially a graphic representation of these bounds showing interrelationships of operational parameters.

FOCAL PLANE DEVICES

Radiation sensitive devices positioned at the focal area of electromagnetic detectors.

GENE EXPRESSION

IONOSPHERE

transferred to EARTH IONOSPHERE
or PLANETARY IONOSPHERES

IONOSPHERES

RT EARTH IONOSPHERE
PLANETARY IONOSPHERES

LINEAR OPERATORS

LONG PERIOD VARIABLES

use MIRA VARIABLES

MARROW

transferred to BONE MARROW

MARS GEOSCIENCE CLIMATOLOGY ORBITER

MIR SPACE STATION

The Soviet space station launched February 20, 1986; its name means peace or world in Russian. It is a manned, modular, permanent, and multi-mission station.

MIRA VARIABLES

Long-period (80 to over 600 days) variable stars of red giant or red supergiant type, exemplified by the star Mira Ceti.

OFFICE AUTOMATION

OSTA-3 PAYLOAD

SN (OFFICE OF SPACE & TERRESTRIAL
APPLICATIONS PAYLOADS)

Spaceborne systems flown aboard the Space Shuttle STS-17, sponsored by the NASA Office of Space & Terrestrial Applications from which the acronym is derived. The systems included the feature identification and location experiment-1 (FILE-1), the measurement of atmospheric pollution from satellite (MAPS), the imaging camera-B, and the large format camera/attitude reference system (LFC/ARS).

PHYTOPLANKTON

The aggregate of passively floating or drifting plant organisms in aquatic ecosystems.

PLANETARY IONOSPHERES

QUANTUM OPTICS

SATELLITE COMMUNICATION

use SPACECRAFT COMMUNICATION
deleted

VERTEBRAL COLUMN

transferred to SPINE

VIBRATIONAL FREQUENCIES

use VIBRATIONAL SPECTRA
deleted

VIBRATIONAL FREQUENCIES (MOLECULAR)

use VIBRATIONAL SPECTRA

VIBRATIONAL FREQUENCIES (STRUCTURAL)

use RESONANT FREQUENCIES

WEST PAKISTAN

use BANGLADESH
deleted

ZOOPLANKTON

The aggregate of passively floating or drifting animal organisms in aquatic ecosystems.

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New Publication

A brief description of a publication recently released by the Scientific and Technical Information Branch follows. Copies are available for sale from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given with the description.

1987 NASA Thesaurus Supplement (NASA SP-7053(Suppl. 2))

The January 1987 *NASA Thesaurus Supplement* updates the 1985 edition of the *NASA Thesaurus*, NASA SP-7053. Parts 1 and 2 update the *Hierarchical Listing* and the *Access Vocabulary*, respectively. The *Supplement* contains complete hierarchies for all new terms; additions to existing hierarchies are not included but may be found in the online *NASA Thesaurus*. Part 3 of the *Supplement* is a list of *NASA Thesaurus* definitions. Definitions are given for most terms added to the *NASA Thesaurus* since 1976, and the list contains over 1500 terms. Definitions of the more common or general scientific terms are given a NASA slant; if one exists. This *Supplement* includes definitions to *NASA Thesaurus* terms taken from the *DOE Thesaurus* and *NASA SP-7, Dictionary of Technical Terms for Aerospace Use*. The definitions list also includes the date the term was added to the *NASA Thesaurus*. Part 4 includes any changes, deletions, etc. since the last *Supplement*. Any comments or suggestions about this publication, including suggestions for new terms, should be addressed to: Lexicographer, NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, Maryland 21240.

Price: \$18.95

NTIS Order No.: NASA SP-7053(Suppl. 2)

Combined File Postings Statistics (CFPS) Distribution Reduced

In an effort to control publication costs, distribution of the January 1987 CFPS has been limited mainly to NASA Center Libraries and NASA Industrial Applications Centers. NASA/RECON users who still have need for this publication may contact Marion Leiby at the NASA STI Facility (301) 621-0153 to continue to receive this publication.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2906.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.



National Aeronautics and
Space Administration

STI Bulletin

Scientific & Technical
Information

Scientific and Technical
Information Branch

MARCH 1987

Cross-Linking CENDI* Indexing Vocabularies

A study is being undertaken to determine whether electronically cross-linking indexing vocabularies used by CENDI agencies is feasible from the standpoint of costs, resource allocations, and potential saving, and benefits. Users could include both processing staffs and users of the agencies' online systems. The feasibility study and possible mounting of a pilot file would consist of the following primary steps:

Automated term switching between the individual thesauri will be examined. A later development might consist of a unified online cross-linked vocabulary file that would be used by CENDI agencies, with maintenance of individual agencies' segment as designated. The gateways developed by DOE and DTIC, might be used. A common command language being developed by DTIC could be tested.

Four of the five CENDI agencies now maintain individual agency thesauri; the fifth (Commerce) uses descriptors (keywords, terms, identifiers) from each of the agencies plus other descriptors. Some of the concepts represented in the different thesauri are identical, many are more or less related, but the precise form of the descriptors differ.

The availability of explicit cross reference among descriptors will expedite the free interchange of information among the agencies, improve processing time within each agency, and reduce the time between receipt and announcement. Also, users of the individual agency online systems might find such a file, if made available to them, helpful in developing search strategies.

Effort will be made to determine correlations and differences in philosophy of thesaurus construction and maintenance, and constraints imposed by mission, policies, and procedures of each agency, to assist in improved use of individual agency vocabularies by other agencies, and possible mutual application.

Project Participants

Julia Redford, OSTI, Leader	John Brosseau, NASA/STIF
Anne Harrison, NTIS	Dick Jacobs, DTIC
John Wilson, NASA HQ	Peri Schuyler, NLM

* U.S. Department of Commerce (NTIS), Energy (Oak Ridge), NASA, National Library of Medicine, and Defense (DTIC) Information.

Key Contacts at NASA Headquarters and the NASA Centers

The following list of key personnel is provided for assistance in matters relating to the varied aspects of the NASA STI Program. For your convenience, the mailing address and commercial and FTS telephone numbers are included. Telephone extensions are given in parentheses following the name and position title.

To include your office in this list contact Jackie Streeks at the NASA STI Facility (301) 621-0105.

Scientific and Technical Information Branch

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National Aeronautics and Space Administration
Scientific and Technical Information Branch
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Washington, DC 20546

Location:

National Aeronautics and Space Administration
Scientific and Technical Information Branch
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7th and D Streets SW
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Adelaide Del Frate, Administrative Librarian;
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Walter B. Pierce, III, Program Analyst (2910)
Patricia A. Sullivan, NASA STI Facility
On-Site Representative (2939)

Database Products and Services Section

John H. Wilson, Jr., Acting Head (2928)

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Key Contacts Continued from page 1.

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New Thesaurus Terms

Subject terms added to the NASA Thesaurus in February 1987 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA-STI Facility (301) 621-0103.

ACETONITRILE

ADI METHODS

use ALTERNATING DIRECTION IMPLICIT

METHODS

ALTERNATING DIRECTION IMPLICIT METHODS

COMPUTER CODES

use COMPUTER PROGRAMS

CYANOACETYLENE

ETHANE NITRILE

use ACETONITRILE

LINEAR QUADRATIC REGULATOR

A type of optimal-state feedback controller that does not consider noise. It is primarily used to control aircraft and spacecraft.

LINEAR REGULATOR

use LINEAR QUADRATIC REGULATOR

LOG CONTROL

LINEAR QUADRATIC GAUSSIAN CONTROL

METHYL CYANIDE

use ACETONITRILE

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use OPTICAL THICKNESS

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Status and Future of Lunar Geoscience, (NASA SP-484.)

The Moon is a baseline for study of the geological evolution of the terrestrial planets. Continued data acquisition and analysis in lunar studies has led to a greater appreciation of the complexity of the Moon's origin and geologic evolution, although many questions remain. We have made major advances in the study of the impact, magnetic, tectonic, and thermal processes involved in the Moon's evolution. The concept of lunar origin by impact of a large planet-sized body on the Earth 4.6 billion years ago has spurred new research into the physical and chemical effects of large planetary collisions. Resolution of many unresolved lunar science questions requires resumption of lunar missions. Because of the Moon's importance to the history of the early solar system, lunar exploration should be given high priority in plans for general solar system study.

Price: \$4.25

GPO Stock No.: 033-000-00997-6

**Life Sciences Space Station Planning Document: A
Reference Payload for the Exobiology Research
Facilities, (NASA TM-89606.)**

The Cosmic Dust Collection and Gas Grain Simulation Facilities represent collaborative efforts between the Life Sciences and Solar System Exploration Divisions designed to strengthen a natural Exobiology/Planetary Sciences facility, with Exobiology a primary user. Conversely, the Gas Grain Facility is an Exobiology facility, with Planetary Science a primary user.

Requirements for the construction and operation of the two facilities, contained herein, were developed through joint workshops between the two disciplines, as were representative experiments comprising the reference payloads. In the case of the Gas Grain Simulation Facility, the Astrophysics Division is an additional potential user, having participated in the workshop to select experiments and define requirements.

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Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2906.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

NASA STI Handbook: Documentation, Approval, and Dissemination, NHB 2200.2

The *NASA Scientific and Technical Information Handbook: Documentation, Approval, and Dissemination, NHB 2200.2*, February 6, 1987 sets forth specific procedures and standards for approval, availability authorization, production, and dissemination of NASA-sponsored scientific and technical information (STI) contained in the NASA scientific and technical report series, in symposium presentations, and in external publications such as journal articles, books, and monographs.

Two topics addressed in the *Handbook* have been selected for discussion in the *STI Bulletin*. This article covers the DAA and the availability categories; a second article will discuss the NASA report series.

Document Availability Authorization (DAA)

Since 1978, NASA has used a document review process to determine the availability (formerly called distribution) controls to be placed on NASA-funded documents. In addition, these controls, provided for appropriate bibliographic processing, announcement, and distribution of NASA documents. In 1984, modifications in the control process provided for Program Office reviews and instituted additional classes of limitations.

Availability Categories

Availability refers to various limitations that may be placed on access to NASA-sponsored documents authored by NASA employees or NASA contractors or grantees. The availability categories include the following:

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These documents contain classified information related to defense articles and defense services; information covered by an invention secrecy order; or information not classified pursuant to U.S. law and regulation and is directly related to the design, engineering, development, production, processing,

manufacture, operation, overhaul, repair, maintenance or reconstruction of defense articles. This includes blueprints, drawings, photographs, plans, instructions, computer software and documentation, and information which advances the state of the art of articles on the U.S. Munitions List. ITAR documents shall bear a special notice indicating the restricted distribution.

Export Administration Regulations (EAR) Documents

These documents contain technical data that can be used, or adapted for use, in the design, production, manufacture, utilization, or reconstruction of articles or materials. The data may take a tangible form, such as a model, prototype, blueprint, or an operating manual; or they may take an intangible form, such as technical data. EAR documents shall bear a special notice indicating the restricted distribution.

o NASA Restricted Distribution Documents

For Early Domestic Dissemination (FEDD) Documents

These documents contain technical data determined to be applicable to commercial products or processes which could be brought to market within a reasonable time and would contribute to the recipient's share of the market because the resulting product or process will reach the market sooner or

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1986 Foreign Technology Bibliographies

Later this year three 1986 Foreign Technology Bibliographies will be available to authorized recipients:

Japanese Science and Technology, 1986
Soviet and Eastern Block Science and Technology, 1986
European Science and Technology, 1986

Each bibliography will include 1986 accessions from the NASA STI database pertaining to the astronautical and aeronautical development in the referenced countries.

Japanese Bibliography

This bibliography is the third in the series and includes all items relevant to Japanese technology accessioned in the NASA STI database in 1986. Its subject coverage is broad in scope. Items of Japanese origin and any item whose subject content dealt with Japanese technology were selected from the NASA STI database for this bibliography. Primary subject areas of interest include: lasers; electronics; semiconductor materials; crystal growth and materials processing; chemistry and materials; and computer systems and robotics.

Soviet Bibliography

The technical literature covered in this bibliography describes research and development performed by the Soviets and countries in the Eastern Block. The references were compiled from the NASA STI database based on the *Aeronautical Engineering, NASA SP-7037* profile supplemented with the following subject areas: computer systems and man-machine systems; plasma physics; lasers; optics; chemistry and materials; remote sensing and climatology; microgravity applications; polymers, and crystal growth; and space sciences, space biology, and bioelectronics. The coverage is limited to items accessioned in 1986.

European Bibliography

This bibliography includes items accessioned into the NASA STI database in 1986 relevant to research and development performed primarily by the NATO countries of continental Europe (France, West Germany, United Kingdom). As with the Soviet bibliography the selection was based on the *Aeronautical Engineering, NASA SP-7037* profile. Supplemental topics of interest include the following: space commercialization; mathematics; fluid mechanics; composite materials; materials processing, and fatigue; physiology of flight and human factors; microcomputer application; electromagnetic wave propagation; and space policy and international cooperation.

Other foreign technology bibliographies of possible interest include:

Current European Aeronautics, 1983-1985,
NASA SP-7055

NASA STI Handbook

Continued from page 1

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These documents contain technical data determined to relate to a proof-of-concept or a major breakthrough that would allow a major technological improvement that could be applied in commercial or governmental aerospace system or subsystem within five years. LD documents are given restricted distribution to provide domestic interests with early access. General release and publication is delayed generally two years from the date of initial distribution. LD documents shall bear a special notice indicating the restricted distribution.

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Documents disclosing an invention in which the Government owns or may own a right, title, or interest are to be withheld for a reasonable time (6 months) in order for a patent application to be filed.

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Continued on page 3.

Key Contacts at NASA Headquarters and the NASA Centers

The following list of key personnel for matters relating to the varied aspects of the NASA STI Program is provided to replace the list printed in the March 1987 *STI Bulletin*. For your convenience, the mailing address and commercial and FTS telephone numbers are included. Telephone extensions are given in parentheses following the name and position title.

To include your office in this list contact Jackie Streeks at the NASA STI Facility (301) 621-0105.

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Geomorphology from Space: A Global Overview of Regional Landforms, (NASA SP-486)

Geomorphology and landforms analysis at the regional scale is a well-defined concept; most researchers have relied on maps and aerial photos to conduct scientific investigations. With the advent of space imagery from Landsat, Seasat, HCMM, etc., a new data source is now available. This book, authored by 10 geoscientists from government, industry, and academia, has as its principal purpose to demonstrate the value of space-acquired remotely sensed data to the study of regional landforms. The book should pave the way for a new approach to geomorphic analysis.

Price: \$41.00

GPO Stock No. 033-000-00994-1

New Space Commercialization File (C10K Accession Series)

Coming up in File Collection D. Look for details in the next issue.

1986 Foreign Tech.

Continued from page 3.

Japanese Science and Technology, 1983-1984,
NASA SP-7054

Soviet Aeronautics, 1975-1984, NASA SP-7052

European Aeronautics and Astronautics, 1985,
NASA SP-7058

Japanese Science and Technology, 1985,
NASA SP-7057

Soviet Aeronautics and Astronautics, 1985,
NASA SP-7056

For more information concerning the availability of the Foreign Technology bibliographies contact John Wilson at NASA Headquarters, NTT-2 (202) 453-2928.

COSMIC Software Catalog on NASA/RECON

NASA's Computer Software Management and Information Center (COSMIC) was established at the University of Georgia to supply software developed with NASA funding. As part of NASA's Technology Transfer Network, it ensures that business and industry, other government agencies, and academic institutions have access to NASA's advanced computer software technology.

The COSMIC file is available as the M10K series in file collections B, D, N, O and P on NASA/RECON. The series is comprised of manuscript abstracts of computer programs which include descriptions of the programs developed by NASA, DoD, other government agencies and their respective contractors. The file is updated annually, and the current series corresponds with the 1986 edition of the *COSMIC Software Catalog*.

A COSMIC record is similar to a STAR (N10K) record, but there are a few differences. First, COSMIC only indexes major subject terms. Minor subject term indexing is not utilized. When a user searches with the major subject term (MJ) or subject term mnemonic (ST), COSMIC records may be retrieved. As you know, using the ST mnemonic retrieves records which have been indexed as either a major or minor descriptor for the term specified. When a user searches for minor subject terms (MN), COSMIC citations are automatically excluded. M10K records do not have any entries in the minor term field; therefore, there are no minor terms to search.

The second difference also concerns the index terms. Although COSMIC uses the NASA Thesaurus as its controlled vocabulary authority, it does assign terms which are not included in it. They serve as access points in the hardcopy index of the *COSMIC Software Catalog*. These non-NASA terms also appear on the M10K record in the major subject term field and may appear on FREQUENCY lists; however, they are not directly searchable on NASA/RECON. Consequently, they do not appear as valid entries on a subject term EXPAND display.

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AMINO RADICAL

AMINO RADICALS

transferred to AMINO RADICAL

AMORPHOUS SILICON

ARCHAEBACTERIA

Organisms belonging to the taxonomic kingdom of the same name which are characterized by distinct t- and r-RNAs, the absence of peptoglycan cell walls and their possible replacement by a proteinaceous coat, ether-linked lipids from phytanyl chains, and occurrence in unusually harsh habitats, e.g., methane, halide and thermoacidic environments. These hardy bacteria are significant in the study of the origin of life.

ARGOS SYSTEM

ARTICULATION

transferred to ARTICULATION (SPEECH)

ARTICULATION (SPEECH)

CELL MEMBRANES (BIOLOGY)

CONDENSED MATTER PHYSICS

DARK MATTER

ENDOPLASMIC RETICULUM

HEAD DOWN TILT

ICY SATELLITES

INFRARED SPACE OBSERVATORY (ISO)

An astronomical satellite observatory funded by ESA, operating at wavelengths from 3 to 200 microns. The observatory is comprised of a 60 cm Cassegrain telescope, a CCD infrared camera, to Michelson interferometers, and a photopolarimeter.

LINEAR QUADRATIC GAUSSIAN CONTROL

A type of optimal-state feedback control whose design considers noise. It is primarily used to control aircraft and spacecraft systems. Used for LQG control.

LYSOSOMES

MERCURY ATMOSPHERE

METHYL ALCOHOL

METHYL ALCOHOLS

transferred to METHYL ALCOHOL

NUCLEI (CYTOLOGY)

ORGANELLES

PLUTO ATMOSPHERE

QUARK MODELS

SARCOPLASMIC RETICULUM

SOLID ROCKET BOOSTERS (SPACE SHUTTLE)

use SPACE SHUTTLE BOOSTERS

SPACE SHUTTLE BOOSTERS

SPACE SHUTTLE SOLID ROCKET MOTORS

use SPACE SHUTTLE BOOSTERS

SRB (SOLID ROCKET BOOSTERS)

use SPACE SHUTTLE BOOSTERS

TEDLAR (TRADEMARK)

use POLYVINYL FLUORIDE

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National Aeronautics
and Space Administration

STI Bulletin

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MAY 1987

NASA STI Handbook: Documentation, Approval, and Dissemination, NHB 2200.2 (second in a series)

The *NASA Scientific and Technical Information Handbook: Documentation, Approval, and Dissemination, NHB 2200.2*, February 6, 1987 sets forth specific procedures and standards for approval, availability authorization, production, and dissemination of NASA-sponsored scientific and technical information contained in the NASA scientific and technical report series, in symposium presentations, and in external publications such as journal articles, books, and monographs.

The *Handbook* defines the NASA S&T report series and provides standards and requirements for preparation and distribution of these reports. The NASA S&T report series is the principal means by which the significant scientific and technical findings derived from NASA activities are distributed and disseminated.

This article discusses the NASA S&T report series; a previous article covering the DAA and the availability categories appeared in the April 1987 issue.

NASA S&T Report Series

There are seven types of publications in the NASA S&T report series. The selection of the correct series in which a document should be placed is based on fitting the content of the document and treatment of the subject to the needs of an identifiable readership. The preliminary determination is made by the originating installation, with advice from the local technical publications office. With the exception of CPs, TMs, and CRs duplicated in less than 300 copies, final approval for reproduction is given by the Scientific and Technical Information Office, NASA Headquarters.

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This series records scientific and technical information particular to NASA programs, projects, and missions for presentation to audiences of diverse technical backgrounds. NASA Special Publications are often concerned with subjects of substantial public interest. They are given standard distribution in both printed copy and in microfiche and are generally unclassified, unlimited, and publicly available. This series includes:

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- Selected publications of the NASA Scientific and Technical Information Program, e.g., continuing bibliographies, scientific and technical information guides, and the NASA Thesaurus (7000 series).

NASA Conference Publication (NASA CP)

This series contains the records of scientific and technical conferences, symposia, special lecture series and seminars, and other professional meetings sponsored or co-sponsored by NASA. Conference Publications may be classified, limited, or publicly available.

Low-Numbered CP

This subseries contains compilations of scientific and technical papers or transcripts arising from conferences, symposia, or summaries of workshops. This subseries is printed and given standard distribution in both printed copy and in microfiche.

High-Numbered CP

This subseries contains proceedings that are of limited interest and records of conferences containing primarily abstracts of papers or viewgraphs. Documents in this subseries may be duplicated in a limited number and distributed according to the needs of the originating installation. Standard distribution is in microfiche only.

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NASA Reference Publication (NASA RP)

This series contains compilations of significant scientific and technical data and information deemed to be of continuing reference value. Standard distribution is provided in printed copy as well as in microfiche. Reference Publications may be classified, limited, or publicly available. This series includes:

- Technical handbooks, critical tables.
- Monographs.
- Scientific and technical textbooks.
- State of the art summaries, including critical review of a body of scientific or technical literature, e.g., technical reports or monographs that provide complete and comprehensive treatment of significant contributions to scientific and technical knowledge, or a critical evaluation of selected, previously published research.

NASA Technical Paper (NASA TP)

This series records the findings of significant work conducted by NASA personnel. The Technical Paper is a report of completed research or a major significant phase of research. It not only presents the results of NASA programs but also includes extensive data analysis and/or theoretical analysis so that the significance of the results can be assessed. Technical Papers are the agency's counterpart to formal professional papers and therefore are released only after a professional review controlled by the originating Headquarters or installation office. For documentation purposes, Technical Papers are preferred over professional journal articles because they have less stringent limitations on manuscript length and extent of graphic presentation. Technical Papers receive standard distribution in both printed copy and in microfiche and may be classified, limited, or publicly available.

NASA Technical Memorandum (NASA TM)

This series records scientific and technical findings that do not warrant or cannot be given broad dissemination because of the preliminary or otherwise limited nature of the information. Reports in this series may be classified, limited, or publicly available.

Low-Numbered TM

This subseries is given standard distribution in both printed copy and in microfiche. It includes:

- Limited interest reports - contain significant information that is of narrow interest.
- Bibliographies - present listings of scientific and technical literature with evaluation, generally in defined subject areas.

High-Numbered TM

This subseries is provided primarily for documentation purposes when a record is warranted but standard dis-

tribution in printed form is not. The high-numbered subseries may be duplicated in a limited number and distributed according to the needs of the originating installation. Standard distribution, if appropriate, is in microfiche only. This subseries includes:

- Preliminary reports - contain preliminary data (sometimes called quick-release reports).
- Working papers - contain information for professional peers beyond the basic work group.
- Presentation papers - contain an individual presentation preprinted for distribution at professional meetings, symposia, etc., which may or may not be published subsequently in proceedings or journals.
- Theses/Dissertations - include only those produced by NASA employees that relate to agency work and that the agency elects to publish.
- Bibliographies - present listings of scientific or technical literature without evaluation, generally in defined subject areas.

NASA Contractor Report (NASA CR)

This series records scientific and technical findings generated by contractors and grantees involved in NASA-sponsored research and development and related efforts. If unclassified and unlimited, reports in this series are publicly available.

Low-Numbered CR

The content of this subseries is similar in significance to the Technical Paper. Standard distribution is in both printed copy and in microfiche.

High-Numbered CR

This subseries includes all those records which do not warrant standard distribution in printed form, although they contain new technical information. These are duplicated in a limited number and are distributed according to the needs of the originating installation. They receive standard distribution, if appropriate, in microfiche only.

NASA Technical Translation (NASA TT)

This series consists of English-language translations of foreign-language scientific and technical material pertinent to agency work. If unclassified and unlimited, Technical Translations are publicly available.

Low-Numbered TT

This subseries is printed and given standard distribution in both printed copy and in microfiche.

High-Numbered TT

This subseries may be reproduced in a limited number and distributed by the originating installation. Standard distribution, if appropriate, is provided in microfiche only.

Full Author Names on NASA/RECON

Beginning with STAR 25-07 full author names are available on NASA/RECON in the N10K (STAR) and the A10K (IAA) accession series. Author full names also appear in the Personal Author indexes printed in STAR, IAA and the continuing bibliographies. Previously, only the author's last name and initials were available. Changes will not be made to database records entered before STAR 25-07. Also, the author field remains unchanged, i.e., last name and initials, for all other accession series (N70K, X, K, B, M, V, and W) in all file collections.

Full author names are entered into NASA/RECON as they appear on the report. An author's name may appear in several different ways. On one report, the full name might be used; a second report might use only the last name and two initials; a third report might use the last name, full first name and middle initial, etc. Previously accessioned author names, i.e., last name and initials, are interspersed throughout the full name entries. In addition, each author name is limited to 40 characters. Author names exceeding 40 characters are truncated at that point. These factors make certain modifications in search techniques necessary in order to retrieve all variations of the author's name.

EXPAND the author's last name rather than **SELECT** the full name. The 40 character limitation means that you would enter only the first 40 characters of the name.

Also, the increased length of the author names reduces the number of entries on any one screen, making paging necessary. As more names are added, additional **EXPANDs** will be necessary to retrieve all variations.

The **EXPAND** display lists the variations in the following order:

Anderson, C.
Anderson, C. M.
Anderson, C. M., Jr.
Anderson, Carl M.
Anderson, Carl Michael
Anderson, Carl Michael, Jr.

The entries using 'initials only' precede the full name entries in alphabetical order in an author **EXPAND**. Hyphenated names with the same last name precede the entries using initials only. Author name designators such as Sr., Jr., II, and III follow the author's full name or his initials.

For complete recall and to avoid entering multiple **EXPANDs**, a user may also **ROOT** an author's name:

SELECT Au/Anderson, C.

This approach would retrieve all records with an author entry of last name Anderson and first name beginning with the letter "C".

If the author's full name is known a **RANGE** search may be used instead of a **ROOT** search.

SELECT AU/Anderson, C:Anderson, Carl Michael, Jr.

This approach decreases the number of false hits.

New Thesaurus Terms

Subject terms added to the NASA Thesaurus in March 1987 are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AIRFOIL OSCILLATIONS

Periodic motions experienced by airfoils in aerodynamic conditions.

COLUMBUS SPACE STATION

The European Space Agency's manned orbital platform.

CONTACT LOADS

Dynamic loading by contact between two bodies.

FLUX VECTOR SPLITTING

The splitting of the nonlinear flux vectors of the conservation-law form of the inviscid gasdynamic equations into subvectors by similarity transformations so that each subvector has associated with it a specified eigenvalue spectrum.

GET AWAY SPECIALS (STS)

Low-cost, man-independent Space Shuttle experimental payloads.

HOTOL LAUNCH VEHICLE

A British unmanned horizontal takeoff and landing single-stage-to-orbit launch vehicle.

INSURANCE (CONTRACTS)

Coverage by contract whereby one party undertakes to indemnify or guarantee another against loss by a specified contingency or peril.

MERCURY SURFACE

The surface of the planet Mercury.

MIMD (COMPUTERS)

A type of parallel computer that is essentially two or more individual computers with facilities for interaction and work sharing. Used for multiple instruction multiple data stream.

MODFETS

Heterojunction field effect transistor device structures in which only the larger (Al, Ga)As bandgap is doped with donors while the GaAs layer is left undoped. This results in high electron mobilities due to spatially separated electrons and donors. Used for modulation doped FETs.

MODULATION DOPED FETS use MODFETS

Continued on page 4

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Postal Manual) Do Not Return

ARIN Steering Committee Training

An ARIN Training Workshop was presented at the Facility on Monday, April 6, 1987, in conjunction with the ARIN Steering Committee Meeting. The workshop was planned and conducted by Library Services staff.

Cataloging in ARIN/NOTIS was the topic of the morning session. Included in the session were demonstrations of search techniques, original cataloging and copy cataloging in NOTIS. Special attention was given to entering copy and volume holding records. System commands to derive and delete records and to edit records on-line were demonstrated. Participants were given an opportunity to use the demonstrated features of NOTIS during a hands-on session.

The afternoon workshop concentrated on an overview of NOTIS tables for Modules I and II as presently defined. A guest lecturer, Branka Al-Hamdy, presented an alternative approach to the NOTIS tables.

The workshop was attended by 23 members of NASA Centers Library staff.

Thesaurus Terms

Continued from page 3

MODULATION DOPING

The process of doping only the larger bandgap of a heterojunction device with donors, while the other layer is left undoped. Since the electrons and donors are spatially separated, ionized impurity scattering is avoided and extremely high electron mobilities are obtained.

MULTIPLE INSTRUCTION MULTIPLE DATA STREAM use MIMD (COMPUTERS)

SIMD (COMPUTERS)

A type of parallel computer with multiple memories and an arithmetic logic unit for each memory. A single control unit allocates instruction execution according to the memory that holds the required operands. Used for single instruction multiple data stream.

SINGLE INSTRUCTION MULTIPLE DATA STREAM use SIMD (COMPUTERS)

SOLAR NEIGHBORHOOD

The portion of the Milky Way Galaxy centering around the sun and containing the nearest neighboring stars.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

Now Online: Aeronautics Basic Research File

A long-awaited major addition to the NASA STI database is now accessible on NASA/RECON. A collection of over 100,000 cards, covering the period from approximately 1915 through the early 1960's, it served as the National Advisory Committee for Aeronautics (NACA) Headquarters Library shelflist. Along with NACA reports it contains reports of other U.S. government agencies, U.S. industry, foreign government agencies and industry, including Britain, German, and Scandinavian. After the formation of NASA, the collection was entrusted to the NASA Scientific and Technical Information (STI) Facility, where it has served as a reference source. Renewed interest in the basic aeronautical research represented by these documents, and the many development projects underway in subsonic, transonic, and supersonic flight that could benefit - probably in the range of hundreds of millions of dollars - made it imperative that the file be made more generally available. Making it accessible on NASA/RECON has been jointly supported by the NASA Headquarters Aeronautics Division (OART), and the Scientific and Technical Information Office. The searchable fields and mnemonics are as shown below.



The information contained in the file was extracted from the NACA shelflist cards and not source documents. Also, the information was not formatted in any way to correspond to pre-existing cataloging standards. Therefore, this file has several unique characteristics which differentiate it from other files. Some of these unique search features are described below.

Subject terms are not taken from the NASA Thesaurus, but are extracted from the catalog cards. For the most part the terms used are consistent with the *Subject Headings for Index of NACA Publications*. These subject headings are text searchable using mnemonic SUB, not term (or directly) searchable as the NASA subject terms found in other files.

Corporate Name entries do not correspond to the Corporate Source Authority List (CSAL) as do other accession series. Again this information was extracted directly from the catalog card. The field is text searchable using the mnemonic CRP.

Another key text searching difference is that *all* text fields, i.e., the title, the corporate name, the miscellaneous notes, shelflist number, and the abstract, are single-word searchable using the mnemonic TXT. Unlike other NASA/RECON files, these fields can be searched simultaneously using only one command.

The *Miscellaneous Notes* field is a catch-all field containing various and extraneous notes and information found on the catalog cards not fitting the definition of the other fields. Kinds of information appearing in MCN

Continued on page 2

Text Fields

<u>Search</u>	<u>Field Name</u>
TXT	Text Fields
CRP	Corporate Name
UTP	Title
MCN	Miscellaneous Note
SLN	Shelflist Number
AX	Abstract
SUB	Subject Index Terms

Non-Text Fields

AU	Personal Author
RN	Report Number
PDT	Publication Date
non-searchable	Accession Number
non-searchable	Publication Date
non-searchable	Pageination

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include presentation, document availability, and issuance notes. Each item is captured as it appears, with each entry constituting a separate sentence. This field is text searchable using the mnemonic MCN.

The *Pagination* field shows either a total number of pages, 10 p., or inclusive pagination, p. 5-15. Information on number of figures, diagrams, refs, etc. is also included in this field. The *Pagination* field is displayed as part of the record but it is not searchable.

The mnemonic PDT is used to term (or directly) search the *Publication Date*. Since the NACA collection spans numerous years of historical records being captured in the 1980's, the year portion of the accession number

loses any significance regarding an approximation of the publication date. The PDT is an 8-character value in the fixed form of YYYYMMDD, i.e. 19251024, with no spacing or separations. This format permits clarification of dates entered for documents produced prior to 1900. If a publication date is not known, the field is 'zero-filled' and is searchable as such, i.e. 00000000.

Although the records are fully-searchable online, the documents are not currently available for purchase through online ORDERing. A hardcopy file of documents is presently being built at the NASA STI Facility to fill user requests, and may be obtained by contacting Delores Johnson, Document Supply Supervisor at (301) 621-0146, through NTIS or from the source.

Sample RECON Display

	REPORT NUMBER	PUBLICATION DATE	PAGINATION
ACCESSION NUMBER	86H22477	JUNE 1941	PAG: 27 p. incl. refs. (15)
	DISPLAY 05/2/2		
	RPT#: T.M.979		
	3 tabs.		
TITLE	UTTL: General airfoil theory		
AUTHOR	AUTH: A/KUSSNER, H.G.		
SHELFIST NUMBER	SLN: 111.3 390		
MISCELLANEOUS	MISC: From: Luftfahrtforschung, Vol. 17, No. 11/12 Dec. 10, 1940, p.370-78 see also: ZWB, Berlin, FB 1130/5, Jan. 9, 1940, 38 p. (Ger. text) (Title varies)		
SUBJECT	SUBJ: /Theories - Airfoils - Kussner. /Theories - Airfoils - Prandtl. /Equations, Integral. /Air flow - Compressibility. /Airfoils, Infinite-span. /Airfoils - Aspect ratio, Large. /Radiators, Acoustic. /Theories - Radiation - Lorentz.		
ABSTRACT	ABS: Contributions to the non-stationary-wing theory. Part V - General wing theory.		

Online Document Orders - How They are Invoiced

NASA-funded and certain non-NASA documents in the A, N, and X accession series are available for a fee to non-NASA registered users. Orders filled by the NASA STI Facility are invoiced on a monthly basis by RMS Associates. Fees are based on the NTIS price code as shown in the citation or page count of each document ordered.

The computerized NASA Online Ordering system records each order that is placed via the NASA/RECON ORDER command. It calculates the price of each document ordered using the format of the requested document (hardcopy or microfiche) and the number

of pages if the document is reproduced. An electronic record is made of every online order placed and invoices are automatically generated by this system. Upon receiving the monthly invoice, the requester will see that every document ordered is itemized by NASA accession number with its corresponding price.

NASA/RECON users should therefore exercise caution when using the ORDER command. The command should only be used when a decision has been made to place an order. The requester should be certain that the document ordered is indeed the desired document, and be willing to accept full responsibility for all orders placed, as an invoice will be generated accordingly. If you wish to cancel an order after it has been placed, please contact Delores Johnson, phone number (301) 621-0146, so that adjustments can be made to avoid unnecessary invoicing.

NASA Technology Utilization Program

Through the Technology Utilization (TU) Office, located at the NASA STI Facility, the NASA Headquarters' Office of Commercial Programs and, in particular, the Technology Utilization Division provides low or no cost services to the user community. The TU Program is designed, in a comprehensive nationwide network, to increase public and private sector benefits by broadening and accelerating the secondary application of aerospace technology. This twice-used technology represents an added dividend to the national investment in the space program and increased national productivity. The products and services provided by the TU Office are available to the U.S. engineering and scientific community as well as other domestic professionals interested in technology utilization. They supplement the mechanism of technology transfer exercised by the elements of the TU Network.

NASA Tech Briefs

NASA Tech Briefs is both a current awareness medium and a problem solving tool. It announces potential products, industrial processes, basic and applied research, shop and lab techniques, computer software, new sources of data, concepts, etc. resulting from the secondary application of aerospace technology. Most technology announcements are backed by Technical Support Packages (TSPs) available without charge. *NASA Tech Briefs* is published ten times a year and is free to engineers in U.S. industry and to other domestic technology transfer agents. Contact the Technology Utilization Office, NASA STI Facility, P.O. Box 8757, BWI Airport, MD 21240.

Spinoff

Spinoff is intended to foster increased awareness on the part of the general public of the practical benefits resulting from government-sponsored aerospace research and development and of the aerospace technology available for transfer. It also presents a synopsis of the agency's major mission oriented programs and an overview of the elements of the Technology Utilization Network. It is published annually and is available (without charge) from the TU Office, NASA STI Facility.

The Technology Utilization Network

The NASA TU Network includes technology transfer personnel and facilities located nationwide. It provides geographical coverage of the nation's primary industrial concentrations and regional coverage of state and local governments engaged in technology transfer activities.

Field Centers

Each NASA Field Center has designated Technology Utilization Officers and Patent Counsels to manage

center participation in regional technology utilization activities.

Industrial Applications Centers (IACs)

The Industrial Applications Centers provide information retrieval services through access to nearly 500 computerized databases. These databases range from the NASA STI database to Chemical Abstracts and INSPEC. The IACs also provide technical consultation services to assist in applying technical information relevant to user needs.

Computer Software Management and Information Center (COSMIC)

The Computer Software Management and Information Center (COSMIC) is operated by NASA at the University of Georgia. Through COSMIC NASA provides an economical source of computer programs developed by NASA and other government agencies. Approximately 1400 computer programs and related documentation are available from COSMIC. Each of these programs is announced in the COSMIC Software Catalog, published annually, to assist users in locating software. The COSMIC Software Catalog is available from COSMIC, Computer Services Annex, University of Georgia, Athens, GA 30602.

For more information about the NASA TU Program contact Walter Heiland, Technology Utilization Office, NASA STI Facility (301) 859-5300 ext. 241 or 243.

The following Technology Utilization officers are included to update the list of 'Key Contacts at NASA Headquarters and the NASA Centers,' published in the April, 1987 *STI Bulletin*.

Jet Propulsion Laboratory

4800 Oak Grove Drive
Pasadena, CA 91109
(818) 354-4321 FTS 792-4321 (792-extension)

Gordon S. Chapman, *Technology Utilization Officer* (4849)

Norman L. Chalfin, *Technology Utilization Manager* (2240)

Lyndon B. Johnson Space Center

Houston, TX 77058
(713) 483-0123 FTS 525-0123 (525-extension)

Dean C. Glenn, *Technology Utilization Officer* (3809)

John F. Kennedy Space Center

Kennedy Space Center, FL 32899
(305) 867-7113 FTS 823-7110 (823-extension)

Thomas M. Hammond, *Technology Utilization Officer* (3017)

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Space Administration
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Washington, D.C.
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BALTIMORE MD 21240



POSTMASTER: If Undeliverable (Section 158
Postal Manual) Do Not Return

New Thesaurus Terms

Subject terms recently added to the NASA Thesaurus are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ETALONS

Two adjustable parallel mirrors mounted so that either one may serve as one of the mirrors in a Michelson interferometer; used to measure distance in terms of wavelengths of spectral lines.

FREE-PISTON ENGINES

Engines in which the pistons are not connected to the crank.

PERIOD DOUBLING

The bifurcation of a nonlinear system to two stable periodic cycles on its route to chaotic turbulence.

REVERBERATION CHAMBERS

Chambers designed to eliminate outside noise for accurate acoustic measurement.

SPECKLE HOLOGRAPHY

An imaging technique whereby a speckle pattern results from laser illumination of a diffusely reflecting surface when interference occurs between the fields passing through the various portions of lens aperture. Information about the motion of an object can then be obtained from the imaged fringes resulting from the translation of two speckle patterns.

SPECKLE INTERFEROMETRY

An imaging process whereby the pattern on the image plane of an interferometer is the result of interference between two mutually coherent, but randomly speckled, fields of two, lens-formed images from laser-illuminated, diffusely reflecting surfaces.

STELLAR INTERIORS

The subsurface portions of stars.

STELLAR SYSTEMS

Gravitationally bound groups of stars.
SN (Excludes Planetary Systems)

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

NASA STI Facility Celebrates 25 Years of Operation

The year 1987 marks the Silver Anniversary of NASA's Scientific and Technical Information (STI) Facility. On January 2, 1962, a letter contract was issued by the NASA Office of Scientific and Technical Information "to permit the setting up of the NASA central documentation facility..." The initial operating phase began in February 1962 when the first NASA documents arrived and were processed. Since its establishment the STI Facility has been located at three different sites: Bethesda, MD; College Park, MD; and its current site, Linthicum Heights, MD - near the Baltimore-Washington International Airport.

From the beginning the NASA STI Facility has been contractor operated under the guidance of the STI Office at NASA Headquarters. In its 25 years of operation there have been five prime contractors.

1962-1966	Documentation, Incorporated (DocInc)
1966-1968	Leasco, Inc.
1968-1980	Informatics Tisco, Incorporated (later Informatics Information Services Company)
1980-1985	Planning Research Corporation (PRC)
1985-Present	RMS Associates

The NASA STI Database

In 1962 the document collection numbered approximately 10,000 titles. Today, the NASA STI Facility serves as the central depository for approximately 3,000,000 items of aerospace-derived technology. This collection of information on NASA space and aeronautical research accumulated over more than 25 years and is growing at the rate of 90,000 items annually. This database of aerospace information is the heart of the NASA STI System established to fulfill the mandates of the Space Act of 1958.

The NASA STI Facility is one of three organizations responsible for collecting and processing NASA and non-NASA documents to be included in the STI database. The other two organizations are: the Technical Information Service, the American Institute of Aeronautics and Astronautics (AIAA), and the European Space Agency (ESA). Report literature collected and processed by the NASA STI Facility and by ESA

is announced in the semimonthly abstract journal *Scientific and Technical Aerospace Reports (STAR)*; a companion abstract journal, *International Aerospace Abstracts (IAA)* includes open literature items collected and processed by AIAA. These two journals are the basis of the STI database.

Technology Utilization

Through the Technology Utilization (TU) Office, the NASA STI Facility supports the NASA Headquarters' Office of Commercial Programs and in particular the Technology Utilization Division. The TU program is designed, in a nationwide effort, to increase public and private sector benefits through secondary application of aerospace technology. This twice-used technology represents an added dividend to the national investment in the space program and increased national productivity. The products and services provided by the TU program include *NASA Tech Briefs*, *Spinoff*, and *The COSMIC Software Catalog*.

STI Products and Services

From the STI database the NASA STI Facility produces a variety of current awareness products and services. These are made available to scientists and engineers working at NASA Centers, for NASA contractors, other government agencies and their contractors, or universities through local technical libraries. In addition to *STAR* these products and services include a series of continuing and special bibliographies; *Selected Current Aerospace Notices (SCAN)*; *UPDATE*; an Automatic Document Distribution Service; and an on-line document ordering service. Reports are available in either paper copy or in microfiche form.

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NASA/RECON Training Schedule

Below is the NASA/RECON training schedule for the latter part of 1987. All classes currently scheduled will be held at the STI Facility near Baltimore, Maryland. Prices listed are for non-NASA personnel.

1987 Basic RECON session for new users:

August 20	One day
September 22	\$100/person
October 22	Class size: 12

The Basic training session is designed for the beginning NASA/RECON searcher, preferably with some online experience. The STI database, file, and record structure are covered along with the basic RECON system commands. Search Strategy formulation, Boolean logic, and query analysis are emphasized. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1987 Advanced RECON session for experienced users:

September 23	One day
November 17	\$160/person
	Class size: 6

The Advanced training session is designed for the experienced NASA/RECON searcher. Basic text searching is reviewed as well as more indepth text searching techniques. Advanced RECON system features and stored search formulation and editing are covered. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

NASA/RECON Training Registration

Pre-registration is required for all training sessions. To register, call RECON Services at (901) 621-0150 between 8 am and 4:30 pm ET, Monday through Friday. If a preferred session is closed, ask to be wait-listed. A confirmation letter and registration package will be forwarded for each reservation placed.

Reservations may be cancelled or changed up to five business days before the session. Cancellations after that date and no-shows will be billed for the full amount. New users are entitled to one free training class.

You may be billed to a standing RECON purchase order, to a new purchase order, or you may pay with a company or personal check.

Facility Celebrates 25 Years *Continued from page 1*

NASA/RECON

NASA/RECON is the government's first major online bibliographic search system. It was installed at the NASA STI Facility by Lockheed and became operational in the spring of 1969. RECON, which stands for REMote CONsole, predates the National Library of Medicine's MEDLARS system, and was the basis for the Library of Congress' SCORPIO, Lockheed's DIALOG, JURIS at the Justice Department, DOE/RECON, and other places.

The NASA/RECON interactive retrieval system is designed to enable the user to conduct a literature search at a remote console of the entire NASA STI database. Users access the STI database through a dedicated or dial-up terminal. NASA/RECON offers quick access to comprehensive bibliographic information on approximately 3,000,000 reports, journal articles, and miscellaneous documents of worldwide origin and of special interest to the aerospace community. Online access to NASA/RECON is available to NASA centers, NASA contractors, other government agencies and their contractors, universities, and other organizations with aerospace related contracts or grants. The NASA STI Facility provides an ongoing hot-line telephone service to all users. This service assists the user with specific, on-the-spot search problems.

NASA/ARIN

The Aerospace Research Information Network (ARIN) is designed to give NASA Center libraries state-of-the-art technology for library services. The study of automation and integration of NASA Centers' library functions was first undertaken in 1983. In 1984, the ARIN requirements study was completed and the project was approved by the NASA Automated Information Management (AIM) Council. During the spring of 1985, NASA directed the facility to purchase the NOTIS library automation software package from Northwestern University to be used as the core of the ARIN system. Phased ARIN implementation at 14 NASA libraries began in 1985. When fully implemented, the ARIN database will include the book and journal holdings of each of 14 participating libraries. These holdings will be represented by fully cataloged records from the Library of Congress, OCLC, and other bibliographic utilities. Ultimately, the ARIN system will provide an automated cataloging capability to all NASA Center Libraries that will permit the eventual replacement of a library's card catalog, and the implementation of an online catalog, acquisitions and circulation, and serials control and management information functions.

A chronology of events highlighting the NASA STI Facility's role in development of the STI Program will be included in the September issue.

From the Centers: LeRC

The NASA Lewis Research Center produces technical films which supplement the printed research reports authored by Lewis Center scientists and engineers. The printed report and the technical film can each stand alone. However, the technical films provide additional graphic footage which highlights the procedures and results of the research. These films are available on loan for nonprofit, noncommercial screening. They are available on 16 mm film with an optical sound track and projection speed of 24 frames per second, 3/4 inch U-Matic tape, and 1/2 inch VHS tape.

Requests from universities and contractor and government organizations, domestic and foreign are welcome. The brochure which describes the film collection, *Technical Motion Picture Catalog*, is available from:

George Mandel
Chief, Technical Information Services Division
NASA Lewis Research Center, MS 60-1
21000 Brookpark Road
Cleveland, OH 44135

Print Command - A Reminder

When you initiate a PRINT command, always complete the transaction by entering an END command.

Requesting offline prints on the NASA/RECON system is a two-step process. Step one identifies the citations and the desired format of the output. This is accomplished through the use of the PRINT command. Each PRINT command consists of three parts: a set or accession number, an output format, and the citation range to be printed.

Example: PRINT 7/4/1-80
PRINT 87N10023
PRINT 1/6

In the first example, the first 80 citations of set number seven are printed in a format designated by the user through the SPECIFY FORMAT command (Format 4). In the second example, the full citation corresponding to accession number 87N10023 is printed. The system defaults to Format 2 (full-citation) because another format was not specified. Since a single accession number and not a set is specified to be printed, it is not necessary to determine a citation range.

In the last example, full citations are printed, excluding abstracts (Format 6), for the first 100 accession numbers contained in set one. A separate PRINT command (code only) needs to be entered for each additional 100 citations to be printed. RECON prompts the user to enter successive PRINT commands for each block of 100 citations in the set.

Once the PRINT command has been completed, users must proceed with Step two — entering an END command. The END command is entered regardless of whether the user has previously completed the labeling questionnaire at the beginning of the search. The END command finalizes the PRINT request. RECON may not process the desired output without entry of the END command. If you do not wish to enter the subsequent labeling questionnaire, simply press the ENTER key. The output will be labeled with the default values established during user registration with the STI Facility.

Instead of entering an END command, some users prefer to enter a BEGIN-BYPASS. This is especially convenient if the user wants to perform another search. The BB approach is acceptable because it automatically executes the END instruction. In this case, the output is labeled with the default registration values.

To obtain multiple copies of the output, repeat Step one as often as necessary before ENDing the search session. If you enter an END command before you finish making print requests, simply repeat Step one. If you cannot remember what set you wanted to print, enter a SET STATUS command, then make your print requests. Note: The END command deletes the current Format created through the SPECIFY FORMAT command.

Another point to keep in mind about offline prints is that RECON does not permit an offline print request to be canceled once the END command has been entered. Prior to entering the END command, a print statement may be canceled by RELEASEing the set to be printed. If RECON cannot find the set, it cannot print it.

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POSTMASTER: If Undeliverable (Section 158
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**** Notice ****

A presentation of NASA/RECON will be given in Seattle, Washington at the FLICC Regional Workshop on Accessing Federal Databases on September 17, 1987.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Branch follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161.

Publications of the NASA CELSS (Controlled Ecological Life Support Systems) Program (NASA CR-4070)
Publications of research sponsored by the NASA CELSS Program are listed, along with publications of interest to the Program. The bibliography is divided into the three major divisions of CELSS research: (1) food production, (2) waste management, and (3) systems management and control. This bibliography is an update of NASA CR-3911 and includes references from 1984 through 1986. (Avail: NTIS)

Star Formation in Galaxies (NASA CP-2466)

This document contains the proceedings of a conference held at the California Institute of Technology, Pasadena, California, June 16-19, 1986. The topic was star formation in normal, starburst, and active galaxies. Other topics covered ranged from the diffuse far-infrared emission in the galaxy, through the detailed processes and triggers of star formation in disks and starburst nuclei, to the interrelationship between an active nucleus and a surrounding starburst.

(Avail: NTIS)

Engineer in Charge (NASA SP-4305)

This publication is a history of the organizational growth and research activities of Langley Aeronautical Laboratory, from its founding in 1917 until 1958, when NACA became part of the newly formed NASA.

(Avail: GPO)

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.



National Aeronautics and
Space Administration

STI Bulletin

Scientific & Technical
Information

Scientific and Technical
Information Division

SEPTEMBER 1987

NASA's STI Facility Celebrates 25th Anniversary Chronology of Events

During its 25 years of operation the STI Facility has taken the lead in developing and providing innovative STI products and services to the user community. In 1962 the automated document collection numbered approximately 10,000; today the STI database contains more than 3,000,000 records. The STI database was originally supported by an IBM 1401 computer. The current computer system includes two IBM-4381 computers and a configuration of IBM 3380 Direct Access Storage Devices. Online storage capacity is 9 billion bytes. This chronology presents highlights of the NASA STI Facility 25 year history.

1962

The NASA STI Facility, located in Bethesda, MD, first began operation. Produced the U.S. Government's first microfiche and photocomposed abstract journal, *Technical Publications Announcements*, (TPA). Began development of indexing terms that maintained a relationship to subject headings used in the NACA file.

1963

NASA STI Office contracted with AIAA for worldwide coverage of aerospace literature in *International Aerospace Abstracts* (IAA). Renamed *TPA Scientific and Technical Aerospace Reports*, (STAR), issued semimonthly.

1964

Began the Government's first Selective Dissemination of Information (SDI) service to the Agency's scientists and engineers. Published the first issue of *Aerospace Medicine and Biology*, NASA SP-7011, a monthly continuing bibliography.

1966

Provided data for the Government's first large-scale online retrieval system in an experimental program conducted by Bunker-Ramo for NASA.

1967

Provided *Selective Current Aerospace Notices*, (SCAN) to increased numbers of SDI users. Implemented, in coordination with DOD Project LEX, a new NASA *Thesaurus*, NASA SP-7030, as an indexing and retrieval tool. Provided data to Lockheed for a second experimental online retrieval system. Published the first issue of the *AGARD Quarterly Listing*.

1968

Converted retrieval files from tape to direct access disk storage. Published the first issue of *Management*, NASA SP-7500, an annual continuing bibliography.

1969

Placed NASA/RECON in operation as Government's first large-scale online information retrieval service. Began processing book acquisitions in preparation for circulation for NASA Centers.

1970

Added Research and Technology Operating Plans (RTOPs) file to the database (W70K series). Published the first cumulative *AGARD Index of Publications* and the first issue of *Aeronautical Engineering*, NASA SP-7037, a monthly continuing bibliography.

1971

Added abstracts, retrievable online, to current online STAR displays. Implemented the NASA Online Input Photocomposition System, NOIPS to typeset STAR.

1972

Added Contracts Data File, later R&D Contracts Search File, to the database (K10K series). Published the first issue of *NASA Patents Abstracts*, NASA SP-7039, a semiannual continuing bibliography.

Continued on page 2

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Chronology Continued from page 1

1974

Implemented NASA Library Network, NALNET on NASA/RECON for approx. 104,000 titles. Implemented text search capability with the NALNET file. Published the first issue of *Earth Resources*, NASA SP-7041, a quarterly bibliography.

1976

Added online searches of commercial databases to the retrieval services offered to Headquarters and Centers.

1977

Added capability to text search abstracts back to 1972.

1978

Added capability to text search titles back to 1962. Implemented NASA Library Network Periodical System on NASA/RECON (6,000 titles).

1979

Provided capability known as the Online NALNET book Data Entry System to the NASA libraries for updating local holdings data. Replaced Bunker-Ramo terminals with "smart" terminals (Univac). Held the first NASA/RECON Workshop at the Facility. Published the first issue of *Technology of Large Space Systems*, NASA SP-7046, a semiannual continuing bibliography.

1980

Increased Univac terminal transmission rates from 2400 to 9600 baud. Completed a camera copy of the *AGARD Multilingual Dictionary* using automated photocomposition techniques. Implemented Telenet packet switching communications channels for Dial-In users.

1981

Initiated Dial-In service for NASA contractors and other government agencies.

1982

Implemented 1200 baud transmission and a 23-line display for Dial-In users.

1983

Added the Directory of Numerical Data Bases to NASA/RECON (file collection Q). Implemented an online document ordering service for NASA documents. Implemented a Demand Index service to provide users with an index of any specified search on the Primary Data Base. Began subject switching or automatic translation of DTIC and DOE subject terms to NASA subject terms and Machine Aided Indexing (MAI) of DTIC titles. Automated the identification and selection of items for continuing and special bibliographies. Studied the automation and integration of NASA Centers' library functions, the Aerospace Research Information Network (ARIN).

1984

Completed the ARIN requirements study. Received approval from the NASA Automated Information Management Council via Headquarters to proceed with the project. Held first NASA/RECON Users conference in Washington. Commenced support to the agency-wide, central NASA Equipment Management System (NEMS) and to the Translation Services at Headquarters. Implemented retrospective indexing, i.e., automatic adding of new terms to old records. Installed a Xerox 8700 Laser Printer.

1985

Published a series of three foreign technology bibliographies; included a foreign technology index in the continuing and special bibliographies. Installed and tested ARIN prototype equipment. Began retrospective conversion of NASA Centers' library collections. Expanded online document ordering service to include AIAA documents.

1986

Automated the Input Processing System (IPS) for all standard files. Automated the collation of microfiche. Loaded the non-held MARC database into the ARIN system. Began machine phrase selection from text for MAI. Published the first NASA Thesaurus Supplement to include subject term definitions. Completed the pilot installation of ARIN onsite equipment and database and support functions for online catalogs and cataloging services at LeRC. Published the first issue of *Space Station Systems*, NASA SP-7056, a semiannual continuing bibliography.

1987

Automated the IPS for alternate or non-standard files. Added the NACA Historical File (H10K series) and the Space Commercialization Database (C10K series) to the STI database. Implemented full author names on NASA/RECON and in publication indexes. Processed 416,116 RECON commands in June, setting a new monthly record. Completed the conversion from Mark IV to ADABASE/Natural for database management of the Resource Management Information System and the Registration and Product Control System.

**** Notice ****

Peruse the two most recent additions to NASA/RECON. The NACA Historical File (H10K) is available in file collection T (Enter HELP SEARCH COLL-T online for search mnemonics). The Space Commercialization File (C10K) resides in file collections D and J (Enter HELP SEARCH COLL-J for search mnemonics).

Cooperation Needed

Sometimes NASA/RECON has trouble processing a command. Usually, it is something simple, such as **DIS-PLAY**ing a citation or **SELE**cting terms from an **EXP**and list. In these cases, the searcher enters a valid command, but RECON cannot execute it. When RECON experiences this kind of problem, it displays the following message at a user's terminal:

ATTENTION

RECON HAD TROUBLE PROCESSING YOUR INPUT.
PLEASE CONTACT THE RECON COORDINATOR BEFORE
ENTERING ANOTHER COMMAND. 301-621-0300
OR 301-859-5300 EXT 300.

THANK YOU FOR YOUR COOPERATION

Many users have had personal exposure to this message. Most of them follow the instructions and call the RECON Coordinator to report the problem. Others do not.

Why don't they call? Any number of reasons. Frequent answers are, "I wasn't near a phone" and "I was in a hurry to get the search done and didn't have time to call."

We cannot overemphasize how important it is that a user call us when the "Attention..." message displays. We need to find out from you what exactly you did that caused the RECON processing problem. If we do not know what you did, our programming staff cannot easily identify the problem and fix it so that it does not happen again.

We need your help to keep RECON in good condition. Please take the time to call the RECON Coordinator at (301) 621-0300, whenever the message appears.

Notice To Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 453-2917.

STI Manager's Meeting to be Held at Ames

October 20-23 are the dates set aside this year for the annual STI meeting, to be held for the first time on the west coast, at Ames Research Center. Special efforts are under way to make this a productive get-together (the theme is, "Partners in Productivity"), with special sessions set aside for concentrated discussions of each aspect of technical communication: publications, graphics, reproduction, library, and photography. In addition, there will be sessions of interest to the entire group: productivity, appropriation integrity, future directions, and Center issues in general. There will be equipment displays, with information available from exhibitors, and there will be displays of Center products, including publications, graphics, and photographs. A discussion of the NASA fine arts program is also planned. Friday, the 23rd, will be devoted to the library agenda.

And after a day of business, the delights of the San Francisco Bay area await!

Reminder on Full Name Searching on NASA/RECON

Several months have passed since the announcement that full author names were available on NASA/RECON in the N10K, A10K, N70K, X10K and X70K accession series. For retrieval purposes, below are a few search reminders:

◇ An author's name may appear differently on each of his works. On one report, the full name might be used; a second might use only the last name, etc. Author names are now entered into the STI database as they appear on the report. **EXP**AND

the author name to identify all the variations, then **SELE**CT the appropriate E-reference numbers.

- ◇ Author names are truncated at the 40th character.
- ◇ Author entries using last name and initials precede full name entries. Hyphenated names with the same last name precede the entries using initials only. Author name designators such as Sr., Jr., II and III follow the author's full name or initials.
- ◇ If the author's full name is known, users may opt to initiate a **R**ANGE search using the last name and first initial as the first parameter and the full name, including designators as the second parameter.

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New Thesaurus Terms

Subject terms recently added to the NASA Thesaurus are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ALUMINIDES

Intermetallic compounds of aluminum and a transition metal.

COLOR ENHANCEMENT

use COLOR CODING

EXECUTIVE SYSTEMS (COMPUTERS)

use OPERATING SYSTEMS (COMPUTERS)

MANNED MARS MISSIONS

Any of several options for manned missions to Mars in which spacecraft are built for a particular mission. A mission is estimated by around 2020 and may last from one year to three years depending on spacecraft speed and design.

MIRA CETI STAR

use OMICRON CETI STAR

ORBITER PROJECT

deleted

PEEK

A class of semicrystalline polymers called polyarylene ethers used as molding compounds and composite matrix materials. Used for polyetheretherketones.

PLANETARY CRUSTS

The outermost solid layers of planets. The planetary crusts are on top of the mantle and are modified by

various processes of weathering, sedimentation, metamorphosis, volcanism, and bombardment by meteorites.

POLYETHERETHERKETONES

use PEEK

SATELLITES

Any object, manmade or natural, that orbits a celestial body.

RT ARTIFICIAL SATELLITES

NATURAL SATELLITES

VERY LARGE ARRAY (VLA)

A synthetic aperture radio telescope, consisting of 27 parabolic antennas each of which is 25 meters in diameter. The system when connected together is capable of arcsecond resolution with high sensitivity resulting in the world's most powerful radio telescope. It is located in Socorro, New Mexico.

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(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

DTIC Work Unit File

In late autumn, the DTIC Work Unit File (T10-000) was added to file collection E on the NASA/RECON system. The file provides management and brief technical information about the work unit efforts sponsored or performed by the Department of Defense (DoD), before it is formally reported in technical reports or the periodical literature. It identifies who is conducting what kind of research, and when, where, and how the research is being conducted.

DTIC defines a work unit as "the smallest segment into which a Research and Technology (R&T) effort is divided for local administration control." Each work unit has a specific objective, time period for completion, and resultant end product or conclusion.

This file as available on NASA/RECON is different from its counterpart on the Defense RDT&E Online System (DROLS). Only unclassified work unit citations available to U.S. government agencies and their contractors appear on NASA/RECON. A few fields, such as Primary Funding Agency, Subject Areas, Performance Method, DoD Organization Location and Sort Codes and Level of Funding, are also not defined on the NASA STI database.

For ease of searching on the NASA/RECON system, the file is structured to mimic NASA's Research Technology Objective and Plans (RTOs, W70K) as much as possible. The search structure of the DTIC Work Unit File record is described below:

TEXT FIELDS

Field Name	Search Mnemonic	SF/Sort Mnemonic
Abstract	AX	
Objective	OBJ	OBJ
Approach	APP	APP
Progress	PRG	PRG
Corporate Org.	OR	
Performing Org.	PO	POR
Responsible Org.	RO	ROR
Title	UTP	UTL

NON-TEXT FIELDS

Authors	AU	
Contract Number	CN	CN
Report Number	RN	RN
Subject Terms	ST,MJ	MJS

DISPLAYABLE/SORTABLE FIELDS

Summary Date	RDT
Start Date	SDT
Terminate Date	TDT
Principal Investigator	PID
Responsible Individual	RID
Responsible Individual Phone Number	RIN
Principal Investigator Phone Number	PIN
Accession Number	ACC

Search Hints

The Abstract field contains information pertinent to the Objective (OBJ), Approach (APP) and Progress (PRG) of the work unit. Each of these subtopics is labeled as such in the body of the Abstract. This field is single and multiple word text searchable with the mnemonics AX, OBJ, APP, and PRG. AX permits cross searching of all three subfields. The Specify Format and Sort mnemonics are the same, except AX is not applicable.

DWUF contains two text searchable corporate source or organizations fields, Responsible Organization (RO) and Performing Organization (PO). Entries to the organization fields are not processed against the Corporate Source Authority List as are similar fields in other accession series on NASA/RECON. For this file, corporate source information is captured as transmitted from DTIC.

Continued on page 2

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Responsible Organization references the DoD entity accountable for the research being conducted. Performing Organization states which contractor is conducting the research. Each of these fields is both single and multiple word text searchable. A parent field, containing combined entries for both PO and RO, called Organizations (OR) is also available as a single word text searchable field. Since these are text searchable fields, pay particular attention to spelling irregularities and acronyms as they relate to DoD and the military services.

Principal Investigators and Responsible Individuals are directly searchable under the mnemonic AU, which permits combined searching of both these fields. Although not searchable, the corresponding Phone Numbers are displayable under the SPECIFY FORMAT/SORT Mnemonics PIN and RIN.

The major difference between the DWUF file on NASA/RECON and on DROLS is in the Contract Number field. Along with the actual DoD contract or grant number, this field also contains where available: the DoD Program Number, the DoD Project Number, the DoD Task Number, and the local activity Work Unit Number. Each of these specific numbers is directly searchable under the mnemonic CN; how-

ever prefix tags must be included for each, except when searching the actual contract or grant number. The prefix tags are listed below:

Prog	DoD Program Number
Proj	DoD Project Number
Task	DoD Task Number
WU	Local Activity Work Unit Number

For example, if you wanted to conduct a search on program number 61101A, you would enter:

SELECT CN/PROG 61101A

Notice a space follows the prefix tag. Remember to also include the prefix tag when EXPANDING.

The Report Number field contains the DTIC accession number for the work unit record. It is directly searchable under the mnemonic RN; however the output tag will display as "DTIC #:"

DTIC Keywords and Subject Areas assigned to the work unit records have undergone subject switching against the NASA Thesaurus and appear as NASA Subject Terms. Only Major Subject Terms are utilized with DWUF. As with RTOP, Subject Terms are searchable with both the mnemonics ST (default) and MJ.

Partial Record Displays Now Available

The new NASA/RECON User Agreement form no longer requires that registrants certify that they have the proper clearance to see certain limited document citations. As a result, beginning November 1, 1987, registered domestic NASA and Government Agency contractors who were previously authorized to see the full-citation display of some DoD-limited document references will now only be able to see a partial display of those references. Other organizational affiliations registered with the Facility are not affected by the new policy.

The partial record display provides the most information about the content of a document without compromising NASA's research efforts. Excluded from the record are the following fields:

- Abstract
- Analytic Note
- Analytic Item
- Major Index Terms
- Minor Index Terms
- Abstract Author
- Title Extension
- Notation of Content

Users will be charged the current rate (\$.05) for any offline citation prints appearing in this partial display format. As in the past, users will not be charged if their registration status does not allow any part of a particular citation to be printed. In this case the following message will read:

THIS DOCUMENT CONTAINS RESTRICTED INFORMATION AND THE CITATION CANNOT BE DISPLAYED TO YOU BASED UPON YOUR CURRENT NASA STI FACILITY REGISTRATION.

To alert users, the warning message that restricted access users see when accessing file collections containing limited document references (i.e. D and N) has been changed. The new warning is shown below:

***** NOTICE *****
YOUR NASA/RECON REGISTRATION ENABLES YOU TO SEE UNLIMITED DOCUMENT CITATIONS AND CERTAIN LIMITED DOCUMENT CITATIONS. DEPENDING ON YOUR ORGANIZATION'S REGISTRATION, SOME CITATIONS MAY NOT BE DISPLAYED TO YOU OR MAY BE ONLY PARTIALLY PRESENTED. EXPORT OR RELEASE TO FOREIGN NATIONALS OF RETRIEVED INFORMATION RELATING TO EXPORT CONTROLLED DOCUMENTS, WITHOUT AN EXPORT LICENSE, MAY VIOLATE THE INTERNATIONAL TRAFFIC IN ARMS REGULATIONS OR THE EXPORT ADMINISTRATION REGULATIONS, AND BE PUNISHABLE BY IMPRISONMENT AND FINE. USE OF THESE CITATIONS AND/OR ABSTRACTS SHOULD BE MADE IN ACCORDANCE WITH ANY LIMITATION CONTAINED IN THE CITATION AND IN ACCORDANCE WITH YOUR ACCESS.

**ORIGINAL PAGE IS
OF POOR QUALITY**

SCAN - New Facelift Isn't Only Skin Deep

Beginning with Issue 01 in 1988, *Selected Current Aerospace Notices (SCAN)* will have a new look. The format has been modified to make SCAN cleaner looking and easier to read. In addition, a new printer/distributor has been retained to ensure that SCAN is shipped to subscribers in good condition and on schedule.

SCAN is a semimonthly publication that announces new documents cited in the *Scientific and Technical Aerospace Reports (STAR)* and *International Aerospace Abstracts (IAA)*. SCAN covers the full extent of aerospace information, but segments it into narrower subject areas called topics that are linked to the category divisions of STAR and IAA.

A SCAN topic resembles a newsletter. Readers may quickly look through one to find documents of interest to their research needs. Acquisition librarians find this service useful in identifying documents for their specialized collections. Once identified, these documents may be easily purchased through NASA/RECON's online ORDER capability, or through the STI Facility's Document Supply service (301/621-0145).

Over the past several months, the NASA STI Facility has been revising and updating the search profiles used to produce SCAN. The result is SCAN output that is more on target with current NASA research and development activities.

To further support NASA's ongoing effort to provide timely aerospace information, we are pleased to announce that five new SCAN topics have been developed. This brings the total number of topics to 191. The new topics will be available in SCAN Issue 01 for 1988. A brief description of each is listed below:

SPACE STATIONS, 18-03

Functions of and systems for a space station; their analysis, control, and maintenance; human factors engineering.

ROBOTICS, 54-06

Development and demonstration of automatically-controlled devices that can perform humanlike functions, including decision making.

CAD/CAM, 61-02

Application of technical advances in computers to engineering design, analysis, and production in the aerospace industry.

ARTIFICIAL INTELLIGENCE, 63-02

Development of algorithms, sensors, actuators, software, and systems for expanding automation to task planning, decision making, generation of computer codes, multiple system coordination, monitoring and diagnosing systems and subsystems.

SPACE COMMERCIALIZATION, 84-02

Policies, incentives, and techniques for commercial ventures in space by private industry.

All five topics will be automatically distributed to those subscribers currently receiving all SCAN topics. Other subscribers may purchase them at the standard cost of \$50.00 per topic. There is no charge to university libraries or to organizations that have registered a NASA R&D contract with the STI Facility. Contact the STI Registration Activity (301/621-0153) to update/receive a SCAN subscription form.

New User Aid Arrives — Primer

The long-awaited NASA/RECON *Primer* arrived from the print shop and is currently being distributed to users. Geared for the new or occasional user, the *Primer* completes the NASA/RECON family of user documentation. Each RECON subscriber will receive a copy of the *Primer*; additional copies will be made available for supplemental distribution.

The *Primer* is more than just a handy reference on search and retrieval procedures, and less than a self-tutorial. It is a 22-page practical guide to the NASA/RECON system, and covers nearly everything from transmission parameters to stopwords.

The *Primer* is organized according to concepts rather than search structures. These concepts are defined in the table of contents and include: Getting Started in NASA/RECON, Basic Command Overview and Obtaining Output. A fairly thorough index is included at the back of the guide.

New users will find the sections on online help, the tutorial, and the NASA online thesaurus of particular interest. Old and new users alike will appreciate the stopwords, mnemonics, and file directory sections.

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New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. Copies are available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161.

Advances in Planetary Geology (NASA TM-89871)

The surface of Mars displays a broad range of channel and valley features. There is as great a range in morphology as in scale. This document examines some of the features of Mars geography. Part 1 uses geomorphic mapping, crater counts on selected surfaces, and a detailed study of drainage basins to trace the geologic evolution of the Margaritifer Sinus Quadrangle. Part 2 describes the layered deposits in the Valles Marineris in detail and analyzes the geologic processes that could have led to their formation. (Avail: NTIS)

Arctic Sea Ice, 1973-1976: Satellite Passive-Microwave Observations (NASA SP-489)

Brightness temperatures from the Nimbus 5 Electrically Scanning Microwave Radiometer for the northern hemisphere from 1973 to 1976 were converted to sea ice concentrations and mapped and plotted in a variety of data products. These are presented along with a description of the instrument, relevant radiometric properties of sea ice, an error analysis and the revealed annual cycle of sea ice conditions and its interannual variations. (Avail: NTIS)

Fifteenth NASTRAN® Users' Colloquium (NASA CP-2481)

This publication contains the proceedings of the Fifteenth NASTRAN® Users' Colloquium held in Kansas City, Missouri, on May 4-8, 1987. The authors review general application of finite element methodology and the specific application of the NASA Structural Analysis System, NASTRAN®, to a variety of static and dynamic structural problems.

(Avail: NTIS and from COSMIC, Athens, GA 30602)

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

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Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

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Standing Order Service for NASA Sponsored N and X Microfiche

Effective January 1, 1988, NASA will institute, on a standing order basis, charges for microfiche of NASA-sponsored N and X accessions. This service augments the standing order service for NASA S&T reports in paper copy.

The standard price for a NASA sponsored accession in microfiche form will be \$1.25. At this time the standard price for NASA S&T reports in paper copy will be reduced to \$11.50 from \$14.50.

This standing order microfiche service will provide the same type of standing order option as the service

for paper copy on standing order. You will be invoiced monthly for only those microfiche received. Invoices will be sent after a sufficient amount of time has elapsed for receipt of the desired microfiche.

Because the standing order option provides a pay as you go plan rather than the payment of a large sum in advance, subscribers to the NASA STAR Automatic Distribution Service (ADDS) may wish to take advantage of this service.

For more information, contact Sue Floyd at the NASA STI Facility (301) 621-0160.

Ordering H Accessions

The new accession series, the NACA Historical File (H10K series) in File Collection T is an information file that gives the user brief bibliographic citations about certain scientific documents and articles. These accessions cannot be used for online ORDERing. Documents referenced in the A10K, N10K, and X10K accession series are the only documents that can be ordered online.

The H10K Accession Series

Documents cited in the H10K accession series include NACA reports and memoranda, periodical articles, army and navy aviation reports, and reports of other agencies and companies, both foreign and domestic. Although the records are fully-searchable online, the documents are not available through online ORDERing. The accession number (H-Number) is a sequential number assigned as each record was added to the STI database. The information contained in the file has been extracted from NACA shelflist cards, not the source documents. This NACA shelflist collection consists of over 100,000 cards, covering a period from approximately 1915 through the early 1960's, filed according to NACA Shelflist Number (SLN). This

number or the NACA Report Number can normally be used to locate a particular document.

The NASA/RECON user should also be aware that the documents referenced in these accessions may not be available, because of their age, location and condition. Some may not even be in existence any longer.

To order NACA accessions contact Ms. Delores Johnson (301) 621-0146 at the NASA STI Facility. The NACA Report Number or NACA Shelflist Number (SLN) should be used to help identify the desired document.

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NASA/RECON Training Schedule

Below is the NASA/RECON training schedule for the first half of 1988. All classes currently scheduled will be held at the STI Facility near Baltimore, Maryland. Prices listed are for non-NASA personnel.

1988 Basic RECON session for new users:

<p>March 23 May 19</p>	<p>One day \$100/person Class size: 12</p>
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The Basic training session is designed for the beginning NASA/RECON searcher, preferably with some online experience. The STI database, file, and record structure are covered along with the basic RECON system commands. Search Strategy formulation, Boolean logic, and query analysis are emphasized. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1988 Advanced RECON session for experienced users:

<p>March 24 April 20</p>	<p>One day \$160/person Class size: 6</p>
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The Advanced training session is designed for the experienced NASA/RECON searcher. Basic text searching is reviewed as well as more indepth text searching techniques. Advanced RECON system features and stored search formulation and editing are covered. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

NASA/RECON Training Registration

Pre-registration is required for all training sessions. To register, call RECON Services at (301) 621-0150 between 8 am and 4:30 pm ET, Monday through Friday. If a preferred session is closed, ask to be wait-listed. A confirmation letter and registration package will be forwarded for each reservation placed.

Reservations may be cancelled or changed up to five business days before the session. Cancellations after that date and no-shows will be billed for the full amount. New users are entitled to one free training class.

You may be billed to a standing RECON purchase order, to a new purchase order, or you may pay with a company or personal check.

New Reference Products

Two new reference products are now available from the NASA STI Facility.

The *Acronym Dictionary* has been compiled from material used over the years as a tool for NASA STI Facility abstracters, who often expand acronyms encountered in texts to enhance both information content and searchability. Over the last 20 years, abstracters at the NASA STI Facility have recorded acronyms and their expansions as they were encountered in documents. This is therefore an ad-hoc reference, rather than a systematic collection of all acronyms related to aerospace science and technology. The dictionary contains approximately 2,000 expanded acronyms.

The *Corporate Source Cross-Reference* also originated as a tool for input processing at the NASA STI Facility. In this case, the reference contains alternate forms of corporate names which are cross-referenced to the authorized form in the *Corporate Source Authority List*. The list includes acronyms, alternate spellings, obsolete forms, names of corporate divisions, and other forms not acceptable according to the COSATI rules for citing corporate names. Generally, the CSAL reference in the cross-reference list includes

only the corporate name and not the location. The cross-reference contains approximately 2,300 entries.

Annual updates are scheduled for each of these products in the July/August time frame, and they are available for \$11.50 each. Contact Delores Johnson at the NASA STI Facility (301) 621-0147.

New Thesaurus Terms

Subject terms recently added to the NASA Thesaurus are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

BOLTED JOINTS

Joints fastened with bolts. They are usually designed for heavy loads.

COLOR-COLOR DIAGRAM

A two-axis coordinate graph showing the distribution of stars or other objects with reference to different color indices.

GALACTIC MASS

The total amount of matter contained in a galaxy.

GAUSSIAN ELIMINATION

A technique for solving linear equations by progressive differencing.

Continued on page 4

Contents of NASA/RECON File Collections

We think you will find the revised NASA/RECON File Collection chart listed below to be a handy reference tool. Column one indicates the file collections currently available on NASA/RECON. Column two lists which accession series are available in the corresponding file collection. Column three gives the accession years covered for each accession series.

File Collection	Accession Series	Date Range	File Collection	Accession Series	Date Range
A "IAA & STAR"	A-10,000	1968-date	H "Unclassified Alternate Files"	A-10,000	1963-1967
	N-10,000	1968-date		A-80,000	1964-1969
B "Selected Unclassified"	A-10,000	1968-date		N-10,000	1962-1967
	B-10,000	1963-date		N-60,000	1962
	K-10,000	1972-date		N-80,000	1963-1967
	M-10,000	update year only		N-90,000	1963-date
	N-10,000	1968-date	I "ASRDI"	D-10,000	1975-1976
	N-70,000	1968-date		D-30,000	1975-1976
C "Contracts"	W-70,000	1972-date		D-50,000	1975-1976
	K-10,000	1972-date	J "Space Commercialization"	C-10,000	1986 +
D "Primary Files"	A-10,000	1968-date	M "NALNET Periodicals"	U-50,000	1973-1986
	B-10,000	1963-date			
	C-10,000	1986-date	N	"Primary R&D and NALNET Books" (File Collection D with V-10,000, and without C-10,000)	
	D-10,000	1975-1976	O	"Unclassified Primary Files" (File Collection D without X-10,000, X-70,000 and C-10,000)	
	D-30,000	1975-1976		"Unclassified Primary R&D and NALNET Books" (File Collection D with V-10,000 without X-10,000, X-70,000 and C-10,000)	
	D-50,000	1975-1976	P		
	K-10,000	1972-date			
	M-10,000	update year only	Q "Directory of Numerical Databases"	F-10,000	1983 +
	M-50,000	1971-1972			
	N-10,000	1968-date	R* "Safety"	Y-10,000	1983 +
	N-70,000	1968-date			
	W-70,000	1972-date	T NACA	H-10,000	1986 +
	X-10,000	1968-date			
E "Research in Progress"	X-30,000	1987 +			
	X-70,000	1968-date			
F "NALNET Books"	K-10,000	1972-date			
	W-70,000	1972-date			
G "Alternate Files"	T-10,000	update year only			
	V-10,000	1972-1986			
	A-10,000	1963-1967			
	A-80,000	1964-1969			
	N-10,000	1962-1967			
	N-60,000	1962			
	N-80,000	1963-1967			
	N-90,000	1963-date			
	X-10,000	1963-1967			
	X-50,000	1964-1970			
	X-80,000	1963-1967			
	X-90,000	1963-date			

* For access contact NASA Headquarters Safety Officer

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*** Notice ***

Additional copies of the newly published NASA/
RECON Primer are available free of charge. Con-
tact RECON Services at (301) 621-0150 while
supply lasts.

New Thesaurus Terms Continued from page 2

HYPERCUBE MULTIPROCESSORS

Distributed-memory, message-passing multi-
processors designed to reduce the number of inter-
connections compared to the number of proces-
sors. Other simple geometries such as rings,
meshes, or trees of processors can be embedded
in hypercubes.

INFORMATION PROCESSING (BIOLOGY)

An approach to the study of perception, memory,
language and/or thought that considers organisms
to be complex systems that receive, transform,
store and transmit information.

KNOWLEDGE REPRESENTATION

The use of symbolic data structures to represent
knowledge so that a computer can manipulate
them.

OORT CLOUD

A region of millions of comets between 30,000
and 100,000 A.U. from the sun. Comets are per-
turbed out of the Oort cloud by passing stars and
fall into the inner solar system. The Oort cloud
was named after the Dutch astronomer, Jan Hen-
drik Oort.

REGULATORY MECHANISMS (BIOLOGY)

Specific processes by which living organisms con-
trol the rates of biochemical and physiological
reactions involved in processes such as
metabolism and cellular differentiation.

STAR FORMATION RATE

The rate at which stars are formed within a
specified region or galaxy; sometimes expressed
as the number of solar masses per year.

VERY LONG BASELINE ARRAY (VLBA)

A transcontinental radio telescope, being de-
veloped by the National Radio Astronomy Obser-
vatory, to consist of ten dedicated and automated
25-meter (82 foot) diameter antennas distributed
from Hawaii to St. Croix, Virgin Islands.

STI Bulletin is distributed to established users to in-
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P.O. Box 8757
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(301) 621-0300

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address or telephone (301) 621-0105, or John Wilson, NASA
Headquarters, Code NTT-2, Washington, DC 20546, (202)
453-2917.

Detach label with instructions for address or distribution change
and mail to: ATTN: STI Services Section, NASA STI Facility.

Availability of Information from Federally Funded Research

In 1986 the United States government spent 54.5 billion dollars on research and development activities. Ninety-two percent of all this federally funded research was performed under the sponsorship of five agencies—the Departments of Commerce, Energy, Defense, and Health and Human Services, and the National Aeronautics and Space Administration.

These agencies have formed a cooperative organization called CENDI to "develop ways to improve the productivity of federal research and development through efficient and responsive information programs and improved management systems."

Since information is also a critical need in the research process, each of these agencies is actively involved in gathering and processing information from research by others, including foreign information obtained through international exchange agreements to supplement the information generated by its own research activities. The collected information is of interest not only to researchers within the federal government but also to U.S. industry, colleges and universities, non-profit organizations, and state and local government agencies.

CENDI's programs are conducted by working groups on cataloging standards, indexing, and international scientific and technical information activities. Special projects cover topics such as development of Standard Technical Report Numbers (STRN), development of common authority lists, coordination of classification and sensitive information marking, development of information transfer standards, promotion of cost-benefit studies, and CENDI participation in activities of other associations, such as the National Commission on Libraries and Information Science, the White House Conference of 1989, and a study of the role of report literature in stimulating technological innovation.

The following describes the five major government technical information agencies, the kind of research results available, and how to get further information.

Department of Commerce (DOC) National Technical Information Service (NTIS)



NTIS is the central source for the public sale of U.S. government-sponsored research, development, and engineering reports, as well as foreign technical reports and other analyses prepared by national and local government agencies, their contractors, or grantees. As an agency of the U.S. Department of Commerce, it is also the source of federally generated machine-processible data files and software and licensing arrangements for government-owned patents. NTIS's purpose is to help the United States:

- Improve the efficiency and effectiveness of its research and development effort.
- Promote technology transfer.
- Increase productivity and innovation, and thereby competitiveness.

The NTIS information collection is approaching two million titles. In addition to its centralized bibliographic database, there is a variety of announcement and dissemination products and services for the user community.

For more information, call 703-487-4650.

Department of Energy (DOE) Office of Scientific and Technical Information (OSTI)



OSTI collects, organizes, and disseminates the results of DOE's \$5-billion-a-year research and development program and combines these data with domestic and

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Availability of Information *Continued from page 1*

foreign information necessary for DOE researchers to conduct their work. This information is stored in the world's most comprehensive group of databases on energy.

By far the largest of the databases is the multi-disciplinary Energy Data Base (EDB), which includes worldwide coverage of energy sources, conservation, energy policy, advanced energy systems, environmental aspects of energy, and basic scientific studies in the fields of physics, chemistry, biology, and engineering.

DOE's scientific and technical information is available in the form of technical reports, online retrieval systems, and announcement publications. This information is shared with other government agencies and, when appropriate, is made available to the private sector.

For additional information, write to:

U.S. Department of Energy
Office of Scientific and Technical Information
Technical Information Division
P.O. Box 62
Oak Ridge, Tennessee 37831



**Department of Defense (DoD)
Defense Technical Information Center (DTIC)**

DTIC is the central point within the DOD for acquiring, storing, retrieving, and disseminating scientific & technical information to support the management and conduct of DOD research, development, engineering and studies programs. Separate databases are maintained for planned, ongoing, and completed research projects. A fourth database is maintained for projects conducted independently by the defense research industry. DTIC services are limited to U.S. Government agencies and their contractors and grantees. However, unclassified/unlimited documents which make up more than half of the technical reports produced by the defense community are made available to the general public through the National Technical Information Service (NTIS).

For more information, write to:

Defense Technical Information Center
Office of User Services
Cameron Station
Alexandria, Virginia 22304-6145

or

Office of User Services
Commercial (202) 274-6434
Autovon 284-6434



**Department of Health and Human Services (HHS)
National Library of Medicine (NLM)**

The National Library of Medicine is the world's largest medical library, with a collection of over 4.0 million items. A component of the Department of Health and Human Services' National Institutes of Health, the Library has long been recognized for its pioneering work in biomedical communications, including the development of MEDLARS®. MEDLARS® online services—bringing the latest biomedical information to health professionals throughout the world—have recently been extended to include "end users" with personal computers, through an innovative software package called GRATEFUL MED®.

For additional information, write to:

The Public Information Office
National Library of Medicine
Bethesda, Maryland 20894



**National Aeronautics and Space Administration (NASA)
Scientific and Technical Information Division (STID)**

The NASA Scientific and Technical Information Division acquires and organizes worldwide scientific and technical information on aerospace. To accomplish this, it manages two large implementation contracts — NASA Scientific and Technical Information Facility and Technical Information Service of The American Institute for Aeronautics and Astronautics. For scientists, engineers, and R&D managers whose activities assist or are related to NASA programs, it provides retrieval and current awareness products and services from the NASA scientific and technical information database, including the NASA/RECON online system. A major responsibility is to manage the dissemination of NASA science and technology so as to make it appropriately available. It has established hundreds of information exchanges worldwide. It also provides standards and controls production of NASA technical reports, provides translation services to NASA headquarters and centers, and provides document delivery services to the NASA community. It produces program summary publications and provides publishing support to headquarters program offices.

For additional information about CENDI, write to:

NASA Headquarters
Scientific and Technical Information Division
Code NTT
Washington, D.C. 20546

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 or from the National Technical Information Service (NTIS), Springfield, VA 22161.

NASA Scientific and Technical Publications: A Catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1977-1986 (NASA SP-7063)

This catalog provides a listing of NASA publications entered into the NASA scientific and technical information database during the years 1977-1986. Specifically, this catalog includes those publicly available reports in four NASA report series: Special Publications, Reference Publications, Conference Publications, and Technical Papers. The catalog presents the bibliographic citations sorted by NASA subject category; each citation includes either an abstract (as seen on NASA/RECON) or a list of assigned subject terms selected from the NASA Thesaurus. Indexes of subject terms, personal authors, and NASA report numbers are provided.

Copies are available from NTIS at no cost. Please refer to promotion number PR-655B. Copies are also available from the NASA STI Facility at no cost. An earlier catalog, *Records of Achievement, NASA SP-470* (N83-33792), which includes a listing of earlier NASA publications not covered by this catalog, is also available at no cost from the NASA STI Facility. Contact Delores Johnson at (301) 621-0146. Accession Number 87N30218 (Avail: NTIS)

Atlas of Comet Halley 1910 II (NASA SP-488)

The atlas contains 1209 images of the 1910 apparition, including 838 photographic observations from 15 observatories around the world, as well as drawings from 1835. A bibliography is included. The effort to collect this material and provide a comprehensive source for study was undertaken with the impending 1986 apparition. The resulting atlas displays the evolving coma and tail phenomena during the 1910 apparition, and it is useful for comparison with the present quantitative studies of spectroscopic and structural phenomena. The opportunity to investigate extensively a bright comet at two consecutive appearances by using the wealth of observational information gathered in 1910 and comparing it with the material obtained in 1986 is especially valuable.

This casebound volume of about 610 pages is very technical in nature. Illustrated with black and white photographs, it is intended for a specialized audience of astronomers and astronomy students. Accession Number 87N30235

(Avail: GPO, \$48.00, stock number 033-000-00991-7)

Criss-Cross Directory, Volume 2

This volume of the Criss-Cross Directory will continue the cross reference of AD to N numbers and the cross reference of NASA report numbers to N numbers from 1979 through 1986. Volume 2 will also include a cross reference of N to AD numbers beginning in 1962 and continuing through 1986. Volume 2 should be available sometime in January from the Aerospace Division of the Special Libraries Association. For information on how to obtain a copy, contact George Mandel, NASA Lewis Research Center at (216) 433-5783.

Preview File Available to NASA Personnel

The newest file on NASA/RECON is the Preview File (X30K) and it resides in file collections D and N. The Preview File is intended to alert users that certain NASA reports are in progress, but not yet completed or available. As such, it is an excellent source for pre-publication information on NASA-sponsored research and development activities.

The documents referenced in the Preview file are initially processed as X30K accessions. Since Access Limitations on the documents are unknown at the time of initial input, access to the file is restricted to NASA personnel only. Final processing of the documents will be either as N10K or X10K accessions, as required by the Access Limitations.

The Preview File record structure resembles STAR (N10K) and should contain the same searchable and displayable fields. A few fields may be missing because Preview records are coded from advance Report Documentation Pages (RDPs). In addition, to satisfy mandatory field requirements, predetermined values were established for four fields. They are listed below:

<u>FIELD</u>	<u>VALUE</u>
Microfiche Code	00
Issue Number	99
Sales and Pricing	PREVIEW
Pages	1

Some of the information stated in a Preview record may change when the document is completed and formally processed into the N10K or X10K accession series. For instance, the anticipated publication date (PDT) may change.

***** Reminder *****

Effective January 1, 1988, the cost of documents on standing order service has been reduced. Printed copy price, formerly \$14.50 per title, is now \$11.50. Cost of microfiche is \$1.25 per title.

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New Thesaurus Terms

Subject terms recently added to the NASA Thesaurus are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AVIATION METEOROLOGY

Weather conditions and meteorological studies pertaining to aeronautics.

DEGENERATE MATTER

A state of matter found in white dwarf stars and other ultra-high-density objects in which the electrons follow Fermi-Dirac statistics; i.e., the matter reaches a density high enough so that the pressure increases more and more rapidly to the point where it becomes independent of the temperature and is a function of the density only, thereby departing from the classical laws of physics.

DUMP COMBUSTORS

Combustors having a means of reducing flow velocity and forming recirculation zones through the sudden enlargement area between the inlet duct and the combustion chamber.

HIGH TEMPERATURE SUPERCONDUCTORS

New superconducting materials consisting of mixed metal oxide ceramics that maintain their superconductivity at higher temperature ranges (above 24 K) than the more traditional superconductors.

IONOSPHERE-MAGNETOSPHERE COUPLING

use MAGNETOSPHERE-IONOSPHERE COUPLING

MAGNETOSPHERE-IONOSPHERE COUPLING

Used for ionosphere-magnetosphere coupling.

ORBITAL RESONANCES (CELESTIAL MECHANICS)

Systems of two or more satellites (including planets) that orbit the same primary and whose orbital mean motions are in a ratio of small whole numbers.

PHASE RESPONSE

use FREQUENCY RESPONSE

PHASE SHIFT

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Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

1988

NASA's Machine Aided Indexing Demonstrated at NFAIS Seminar

ORIGINAL PAGE IS
OF POOR QUALITY

by June P. Silvester

John Wilson of NASA Headquarters, and three employees of the NASA STI Facility, John Brosseau, Supervisor of Cataloging and Analysis, June Silvester, MAI Project Coordinator, and Michael Genardi, Senior Indexer, provided one of the featured presentations at the "Indexing in the 80's Seminar" sponsored by the National Federation of Abstracting and Information Services (NFAIS). A demonstration was given of a recent development in the NASA STI Facility Machine Aided Indexing (MAI) project—an online display of MAPS, the machine phrase selection module. The phrase matching process was also shown. This was the first such demonstration ever done outside the NASA STI Facility and it was viewed with considerable interest. The seminar, held at the National Library of Medicine in Bethesda, Maryland on November 17 and 18, 1987, traced the development of computerized aids for indexers and focused on thesaurus construction, five different machine aided indexing (MAI) systems, and the "Implications of Indexing for Online Retrieval."

The NASA presentation began with a general overview of the system. Based in part on the system used by the Defense Technical Information Center (DTIC), work was begun on the NASA system in January 1982. It was constructed in two phases and operates in two modes: 1) natural language MAI, and 2) subject switching. The output of both modes is a set of postings or index terms from NASA's controlled vocabulary as found in the *NASA Thesaurus*.

The input varies. Input for MAI consists of natural language text such as titles, machine selected phrases, or individual terms from another controlled vocabulary; for example, the Library of Congress subject headings. Input for subject switching consists of a set of terms from a controlled vocabulary such as DTIC's that have been assigned to a document to index its concepts. The output is designed to index the same concepts but is not based on a term for term translation. This capability of set to set translation of concepts is unique to the NASA system. The NASA system uses both indexer input and feedback for continued improvement and expansion of the MAI system. DTIC to NASA subject switching has been operational since

June 1983. Department of Energy to NASA subject switching has been operational since July 1986.

The text strings that were selected for the demonstration showed that the MAPS program may select long or short phrases, can distinguish between "A stars" and "a study" (selecting the first and rejecting the second) and generally produces noun phrases, that is, MAPS drops most verbs and adverbs, and many prepositions and conjunctions. The translation of these input phrases automatically provided the correct forms of NASA terms, generated terms for both broad and narrow concepts, and provided knowledge that an indexer would otherwise have had to look up, for example, the correct terms to use for various particle interactions.

The online processes that were demonstrated originated as tools for the programmer and the NASA Lexical Dictionary team. These processes are currently being used for demonstrations and, in the future, will become interactive. The goal is for indexers to produce a set of MAI suggested index terms online as soon as the abstract has been completed. Unlike some other organizations, the NASA STI Facility combines the abstracting and indexing functions. It was noted at the seminar that indexers in some organizations did not abstract but did handle retrieval, or that they only indexed. Some attendees noted that indexing not relieved by the addition of other functions, quickly led to indexer boredom and burnout.

Continued on page 3

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New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. The source from which the publication is available is given following the description. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402, or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given, where available, with the descriptions.

The M-Type Stars (NASA SP-492)

This is the fifth volume in an eight-volume monograph series on nonthermal phenomena in stellar atmospheres. The M-Stars are the most numerous stars in the sky, the coolest of the well-known stars, and the stars which exhibit the deepest convective envelopes, the strongest magnetic fields, and the most energetic flares. Ranging from main sequence dwarfs of subsolar mass to very massive supergiants with high stellar wind mass-loss rates, the M-stars are a natural laboratory for the study of many non-thermal phenomena of fundamental importance to stellar and galactic astrophysics. The properties of these stars and the nonthermal phenomena they exhibit are critically reviewed with emphasis on observational evidence for current theories. This highly technical volume, intended for astronomers and specialists in astrophysics, is illustrated with charts and graphs.

(Avail: GPO, \$26.00, stock no. 033-000-01007-9)

1988 NASA Thesaurus Supplement (NASA SP-7053 (Suppl. 4))

The January 1988 NASA Thesaurus Supplement updates the 1985 edition of the NASA Thesaurus, NASA SP-7053. Parts 1 and 2 update the *Hierarchical Listing* and the *Access Vocabulary*, respectively. The Supplement contains complete hierarchies for all new terms; additions to existing hierarchies are not included but may be found in the online NASA Thesaurus. Part 3 is a cumulative list of NASA Thesaurus definitions. This list of definitions was initiated with Supplement 1 (May 1986). Definitions are given for most terms added to the NASA Thesaurus since 1976. This Supplement includes definitions to NASA Thesaurus terms taken from the DOE Thesaurus, NASA SP-7, Dictionary of Technical Terms for Aerospace Use, and Compendium of ASTM Standard Definitions. The definition list also includes the date the term was added to the NASA Thesaurus. Part 4 includes any changes, deletions, etc. since the last Supplement. Any comments or suggestions about this publication, including new terms, should be addressed to: Lexicographer, NASA Scientific and Technical Information Facility, P.O. Box 8757, BWI Airport, Maryland 21240.

(Avail: NTIS)

COSMIC Software Catalog, 1988 Edition (NASA CR-181461)

This edition of the COSMIC Software Catalog contains abstracts for 1,219 NASA-sponsored computer programs supplied by NASA's Computer Software Management and Information Center. The first section of the Catalog contains descriptive program abstracts grouped by STAR subject categories as defined for use in the NASA STI database. Four indexes are provided to assist the user in locating program information: These are: keyword, author, program number/accession number, and accession number.

(Avail: COSMIC, Athens, GA 30602)

NASA/RECON Training Classes

Basic and advanced NASA/RECON training classes are scheduled to be held at the NASA STI Facility near Baltimore, Maryland.

Basic training classes are scheduled on March 23 and May 19, 1988. These classes are designed for the beginning NASA/RECON searcher with some online experience. The Basic training session covers the STI database file and record structure, the Basic RECON system commands, search strategy formulation, Boolean logic, and query analysis.

Advanced training classes are scheduled for March 24 and April 30, 1988. These classes are designed for the experienced NASA/RECON searcher. A review of basic text search techniques is provided along with in-depth text search techniques, stored search formulation and editing, and advanced RECON system features. All training sessions provide a series of lectures combined with hands-on practice. Refreshments and lunch are provided. The fee for non-NASA personnel is \$100/basic session and \$160/advanced session.

To register, call (301)621-0150. For more information, see the November 1987 NASA STI Bulletin.

1987 Index to NASA STI Bulletin

(January - December 1987)

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Acronym Dictionary	NOV
Aeronautics Basic Research File, Now Online	JUN/JULY
ARIN Steering Committee Training	MAY
Availability of Information from Federally Funded Research	DEC

-C-

CENDI	
Activities	FEB
Availability of Information from Federally Funded Research	DEC
Cross-Linking Indexing Vocabularies	MAR
Combined File Postings Statistics Distribution Reduced	FEB
Contributors to the NASA STI Database	JAN
Cooperation Needed	SEP
Corporate Source Cross Reference	NOV
COSMIC Software Catalog on NASA/RECON	APR

-D-

Dial-up Access to NASA/RECON	FEB
DTIC Work Unit File (T10K)	OCT

-F-

File Collections, Contents of NASA/RECON	NOV
Foreign Technology Bibliographies, 1986	APR
From the Centers: LeRC	AUG
Full Author Names on NASA/RECON	MAY
Reminder on Searching	AUG

-K-

Key Contacts at NASA Headquarters and the NASA Centers	APR
Technology Utilization Officers, Update	JUN/JULY

-N-

NACA Historical File (H10K)	JUN/JULY
Ordering H Accessions	NOV
New Thesaurus Terms	all but AUG, OCT

-O-

Online Document Orders - How They are Invoiced	JUN/JULY
Online Ordering Service	JAN
Ordering H Accessions	NOV

-P-

Partial Record Displays Now Available	OCT
Personnel Changes: Supervisor, Publications	FEB
Preview File Available to NASA Personnel	DEC

Primer - New User Aid Arrives	OCT
Print Command - A Reminder	AUG

Publications:

1987 NASA Thesaurus Supplement (NASA SP-7053, Suppl. 2)	FEB
Advances in Planetary Geology (NASA TM-89871)	OCT
Arctic Sea Ice, 1973-1976: Satellite Passive- Microwave Observations (NASA SP-489)	OCT
Atlas of Comet Haley 1910-11 (NASA SP-488)	DEC
Criss-Cross Directory, Volume 2	DEC
Engineer in Charge (NASA SP-4305)	AUG
Fifteenth NASTRAN Users' Colloquium (NASA CP-2481)	OCT
Geomorphology from Space: A Global Overview of Regional Landforms (NASA SP-486)	APR
Life Sciences Space Station Planning Document: A Reference Payload for the Exobiology Research Facilities (NASA TM-89606)	MAR
NASA Scientific and Technical Publications: A Catalog of Special Publications, Reference Publications, Conference Publications and Technical Papers, 1977-1986 (NASA SP-7063)	DEC
Publications of the NASA CELSS (Controlled Ecological Life Support Systems) Program (NASA CR-4070)	AUG
Star Formation in Galaxies (NASA CP-2466)	AUG
Status and Future of Lunar Geoscience (NASA SP-484)	MAR

-R-

Reference Products, New	NOV
Reminder on Full Name Searching on NASA/RECON	SEP
Revised NASA STI Database Subject Categories	JAN

-S-

Sample RECON Display, NACA Historical File (H10K)	JUN/JULY
SCAN - New Facelift Isn't Only Skin Deep	OCT
Standing Order Service for NASA Sponsored N and X Microfiche	NOV
STI Facility Celebrates 25 Years of Operation	AUG
Chronology, 25 Years of Operation	SEP
STI Handbook: Documentation, Approval and Dissemination NHB2200.2	
Document Availability Authorization (DAA)	APR
NASA S&T Report Series	MAY
STI Managers' Meeting to be Held at Ames	SEP
Subject Categories, Revised	JAN

-T-

Technology Utilization Program	JUN/JULY
Training Schedule, NASA/RECON	AUG, NOV

Machine Aided Indexing (Continued from page 1) The benefits of MAI include increased production, more database entry points for document retrieval, and the utilization of other agencies' indexing. Other production improvements also have occurred at the NASA STI Facility. One of these is the new computerized Input Processing System (IPS) which streamlines document processing. The NASA presentation concluded with a discussion of IPS, complete with examples of indexer screens and printouts both on viewgraphs and in a handout. The handout also contained copies of all viewgraphs used, an IPS flowchart, and an MAI glossary.

The near term future of MAI at NASA, is its evaluation for application to all document series and its use wherever appropriate. The long term goal is the application of MAI to full text and the introduction of improvements to the system with the addition of artificial intelligence.

Three-Volume NASA Thesaurus in 1988

Work is currently underway to produce the sixth edition of the *NASA Thesaurus*, NASA SP-7064, in 1988. The basic format will remain the same as in the two previous editions.

For the first time a third volume will be produced which will include *NASA Thesaurus* definitions. These definitions, from various sources, are a part of a continuing effort to provide definitions to *NASA Thesaurus* terms and thereby improve the retrieval of information. At present, definitions are provided from the NASA STI Facility resources as well as printed sources such as the *Dictionary of Technical Terms for Aerospace Use*, NASA SP-7, the *Department of Energy Thesaurus*, and the *Compilation of ASTM Standard Definitions*, 6th ed. (American Society for Testing and Materials).

Extensive revisions to hierarchies such as those of anatomy and stars have been made as well as numerous other changes and improvements. All new terms and definitions in the January 1988 *NASA Thesaurus Supplement* will be included in the new edition of the *NASA Thesaurus* as well as changes and new terms added subsequent to the forthcoming Supplement. Extensive improvements to hierarchies with a limited number of terms are also planned.

This edition of the *NASA Thesaurus* will contain over 17,000 terms with over 160,000 interrelationships, in nine broadly defined subjects areas. (Each term may be assigned to more than one subject area.)

Milestone Firsts of the Space Age

In January:

- **January 31, 1958:** *Explorer 1*, the first successful U.S. Earth satellite, is fired into orbit atop a Jupiter-C launch vehicle.
- **January 24, 1985:** *Discovery* departs Kennedy Space Center's Pad 39A on the first classified military mission of the Shuttle program.
- **January 24, 1986:** More than eight years outbound from Earth, *Voyager 2* becomes the first spacecraft to investigate Uranus and its satellites.

Aerospace and Space Sciences	6,964
Chemistry	2,514
Earth Sciences	1,996
Life Sciences	2,966
Instrumentation and Photography	1,111
Mathematics and Computers	1,818
Mechanics and Materials	4,503
Physics	6,912
Other Terms	2,256

NASA/RECON Management Operations Working Group to Meet in February

A two-day meeting will be held in February at the NASA STI Facility of the NASA/RECON Management Operations Working Group. Members have been selected by the Manager, NASA/RECON Retrieval Services to represent user groups—NASA and federal centers, industry, universities, and end users. The purpose of the meeting is for us to be apprised of user current and future needs, and to get feedback on planned improvements to better position NASA/RECON to meet anticipated requirements.

We want to be sure we get input from NASA/RECON users. Suggested items to be discussed should be referred to a member of the NASA/RECON Management Operations Working Group representing your interests. Call John Wilson, Manager, NASA/RECON Retrieval Services at (202) 453-2917 or FTS 453-2917 for names of representatives you can call.

National Aeronautics and
Space Administration
Code NT1-4
Washington, D.C.
20546

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NO G-27

NASA

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SPINOFF—Technology Twice Used

Every year NASA publishes a report entitled *Spinoff*. This publication is intended to foster increased awareness on the part of the general public that practical benefits do result from government sponsored aerospace research and development activities. It also presents in an attractive format a synopsis of the agency's major mission oriented programs. More than 100,000 copies are distributed annually.

The nation derives secondary benefits from aerospace research and development programs in a multitude of obscure ways. More often than not, the user or ultimate consumer is unaware that an improved process or product he may use or buy embodies elements of technology that originated in aerospace related research and development efforts that are completely or in part by the Federal Government. *Spinoff* publications describe such a wide variety of the national investment in aerospace research and seek your assistance in helping to reach the rest of the general public.

Your organization may have developed new or improved products or processes that incorporate elements of a technology resulting, at least partially, from work performed for NASA. If any such innovations are embodied in the design of products or processes

that you offer commercially, contact Walter Heiland at the NASA STI Facility (801) 859-5300, ext. 241, so your work can be described in a forthcoming edition of *Spinoff*.

If you wish to receive a copy of *Spinoff* 1987, call (801) 859-5300, ext. 241 or write: NASA STI Facility, Room 111, Office, P.O. Box 8757, BWI Airport, Maryland 21240.

Furthermore, a wealth of information can be found in the annual indexes to the NASA Tech Briefs issued in 1987. Indexes for 1981 through 1986 are currently available at \$10.00 a copy from RMS Associates, P.O. Box 8757, BWI Airport, MD 21240.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON Operational problems may be directed to the RECON Coordinator.

For a complete listing of products and services, contact the STI Facility, P.O. Box 8757, BWI Airport, MD 21240.

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Strick at the above address or telephone (301) 621-0185, or John Wilson, NASA Headquarters, Code NT1-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 2

Scientific and Technical Information Division

February 1988

Standing Order Service for NASA Sponsored N & X Reports

The NASA Standing Order Service now offers NASA sponsored N and X reports in both paper copy and microfiche form. This Standing Order service has been in existence for one year, and is intended to offer users an alternative to the NASA Automatic Document Distribution Service (ADDS), giving the user the option to pay for document distribution on a monthly basis, rather than making one large payment in advance.

NASA reports available through this service include NASA bibliographies and the NASA scientific and technical (S&T) report series such as Conference Publications (NASA CPs), NASA Reference Publications (NASA RPs), and NASA Special Publications (NASA SPs). With a few exceptions, all NASA reports are prepared on microfiche (approximately 6000 fiche per year) representing 3500 titles. The more significant NASA reports (about 400 per year) are also produced and distributed in printed form as well as

microfiche. Reports which cannot be adequately micro-reduced are distributed only in full-size printed form.

The form, Standing Order Service for NASA S&T Publications (FF 717B), may be used to order NASA continuing bibliographies, NASA S&T reports by subject division, and NASA S&T reports by report series. Both microfiche and paper copy formats are available when ordering by subject division.

The standard price for NASA S&T reports in paper copy is \$11.50 per report and \$1.25 per title in microfiche form. Invoicing will be on a monthly basis after a sufficient amount of time has elapsed for receipt of the desired reports.

For more information, contact Sue Floyd at the NASA STI Facility: (301) 621-0160.

Important Notice Concerning the Literature Search Service

The NASA/RECON Literature Search service is for authorized researchers who may or may not have access to the NASA scientific and technical information database through NASA/RECON. Upon request, this service provides individual literature searches performed by retrieval specialists at the NASA STI Facility. Individual strategies for searches are formulated by the retrieval analyst to most completely satisfy individual requests for information.

Beginning April 1, 1988 the NASA/RECON Literature Search fee will be increased to \$100 per search. Search request forms (NHQ Form 84) are available at the library or technical information center in all registered user organizations. For additional information and payment methods you may contact Dian A. Marincola (301) 621-0150.

Notice about SCAN

Due to circumstances beyond our control the printing of SCAN has been delayed. Printing should resume in mid-February. All back issues will be distributed when available.

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NASA/RECON File Directory

For your use, we have prepared a revised list of accession series (files) currently available on NASA/RECON. Column one indicates the accession series. Column two shows the File Name and acronym, as appropriate. Column three gives the accession years covered in the file. Column four shows the file collections in which each series is available.

Accession Series	File Name	Coverage	File Collections
A-10,000	International Aerospace Abstracts (IAA)	1968-DATE 1963-67	A,B,D,N,O,P G,H
A-80,000	Aerospace Medicine and Biology Bibliography	1964-69	G,H
B-10,000	NASA Tech Briefs	1963-DATE	B,D,N,O,P
C-10,000	Space Commercialization	1986-DATE	D,J
	Aerospace Safety Research and Development Institute (ASRDI)	1975-76	D,I,N,O,P
D-10,000	—Fire Technology		
D-30,000	—Cryogenic Fluids		
D-50,000	—Mechanics of Structure Failure		
F-10,000	Directory of Numerical Databases (DND)	1983-DATE	Q
K-10,000	Research and Development Contract Search (R&DCS)	1972-DATE	B,C,D,E,N,O,P
H-10,000	NACA Historical File	1915 +	T
M-10,000	Computer Software Management and Information Center (COSMIC)	Current Year Only	B,D,N,O,P
M-50,000	Announcement of Software Resources (ASR)	1971-72	D,N,O,P
N-10,000	Scientific and Technical Aerospace Reports (STAR)	1968-DATE 1962-67	A,B,D,N,O,P G,H
N-60,000	Index of NASA Technical Publications with Abstracts Technical Publications Announcements	1962	G,H
N-70,000	Older Scientific and Technical Aerospace Reports Extended	1968-DATE	B,D,N,O,P
N-80,000	Older Scientific and Technical Aerospace Reports	1963-1967	G,H
N-90,000	Documents for Record Only	1963-DATE	G,H
T-10,000	DTIC Work Unit File (DWUF) <i>Coming Soon</i>	Current Year Only	E
U-50,000	NASA Library Network Periodicals (NALNET)	1973-86	M
V-10,000	NASA Library Books (NALNET)	1972-86	F,N,P
W-10,000	NASA Research and Development Resumes (RR)	1967-70	G
W-70,000	NASA Research and Technology Objectives and Plans (RTOP)	1971-DATE	B,D,E,N,O,P
X-10,000	Limited Scientific and Technical Aerospace Reports	1968-DATE	D,N
	Classified Scientific and Technical Aerospace Reports	1962-67	G
X-36,000	Preview File	1988-DATE	D,N
X-50,000	Classified STAR Secret Supplement	1964-70	G
X-70,000	Older Classified Scientific and Technical Aerospace Reports Extended	1968-DATE	D,N
X-80,000	Older Classified Scientific and Technical Aerospace Reports	1963-67	G
X-90,000	Classified Documents for Record Only	1963-DATE	G
Y-10,000	NASA Safety Databases (for access contact NASA Headquarters Safety Office)	1983-DATE	R

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LeRC Automates Bibliographic Verification Process

An important part of the editorial process in the preparation of technical publications at the NASA Lewis Research Center involves the bibliographic verification of a paper's references for accuracy, completeness of content, and correct format style. Several different departments that are physically removed from each other are involved in this process, and are electronically linked via a WANG word processor office system.

The process begins when the Editorial Branch receives the author's draft document on a diskette. The reference list is entered into the WANG system and a printout of the reference list is sent to the library. Bibliographic information is verified using both online databases (NASA/RECON, ARIN, OCLC, DIALOG, etc.) and printed information sources. Initial editorial changes are marked on the paper copy.

After all references have been verified and changes in content and format style have been noted, the librarian calls up the reference list on the screen and transfers all changes online to the reference list using the library's word processor terminal. The Editorial staff is notified that they may go online and marry the automated reference list to the word processed text of the paper.

This streamlined procedure, as an important part of the editorial process, has reduced publication processing time at Lewis and has helped assure that all reports have reliable, accurate references.

For details of the bibliographic verification process contact Greg Square, Lewis Library, (216) 433-5772, FTS 8-297-5772.

For copies of the Lewis Library Services Brochure and the current *Bibliography of Lewis Authored Publications*, contact:

George Mandel

Chief, Technical Information Services Division
NASA Lewis Research Center

21000 Brookpark Road, M.S. 60-1
Cleveland, OH 44135

DND Updated

The Directory of Numerical Databases (DND) in file collection Q, was recently updated with 112 records describing databases of planetary and heliocentric mission data provided by the National Space Science Data Center (NSSDC). Look for more NSSDC data in the near future, as well as additions to the DND descriptions of space shuttle wind tunnel test data under the Dataman project.

New Publication

A brief description of a publication recently released by the Scientific and Technical Information Division follows. The source from which the publication is available is given following the description. The price and order number are given with the description.

***Astronautics and Aeronautics, 1978* (NASA SP-4023)**

This publication is a chronology of events during the year 1978 in the fields of aeronautical and space research, development, activity, and policy. It includes appendixes, an index, and illustrations. Chronological entries list sources for further inquiry.

This is an illustrated volume of 402 pages. It is intended for a general audience, although it will appeal particularly to students of space history.

Copies may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for \$13.00. The GPO stock number is D33-000-01010-9.

Milestone Firsts of the Space Age

In February:

- **February 3, 1966:** After bouncing to a stop on the Ocean of Storms, the Soviet moon probe *Luna 9* transmits the first pictures from the lunar surface.
- **February 20, 1962:** John Glenn becomes the first American astronaut to circle the Earth, piloting *Friendship 7* through a three orbit, 4 1/2 hour mission.

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Space Administration
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New Thesaurus Terms

Use references recently added to the NASA Thesaurus are listed. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103

Corrected Entry

ADVANCED COMMUNICATIONS TECHNOLOGY SAT

use ACTS

ALGORITHMIC BUSINESS ORIENTED LANGUAGE

use ALGOL

BACILLUS

SN Restricted to members of the genus bacillus does not include general morphological classification

BACTERIAL DISEASES

SN Excludes plant diseases

BIOCONTROL SYSTEMS

SN Restricted to artificial biotechnological systems for the control of biological processes, use REGULATORY MECHANISMS (BIOLOGY) for natural physiological regulation

BLADE SLAP

use BLADE-VORTEX INTERACTION

CHEMICAL VAPOR DEPOSITION

use VAPOR DEPOSITION

CLUSTERS

SN Use of a more specific term is recommended -- consult the terms listed below

CLUSTERS

use CLUMPS Deleted

COOL BLOODED ANIMALS

use POIKILOthermia

COMMON BUSINESS ORIENTED LANGUAGE

use COBOL

CORPUSCLES (BLOOD)

use BLOOD CELLS

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

REGON operational problems may be directed to the REGON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 3

Scientific and Technical Information Division

March 1988

NASA STI Services Available to Eligible Universities

The Scientific and Technical Information Program, administered by NASA's Scientific and Technical Information Division, will provide many products and services to eligible universities without charge or for a nominal charge. Eligible are universities with aerospace programs, NASA grants, or research programs which may be of interest to NASA.

The following services, and one copy of each of the following NASA products are available to these universities' central libraries:

STAR - a semimonthly announcement journal of technical reports issued by organizations around the world. STAR provides abstracts and indexes of current, unclassified reports acquired and processed for inclusion in the NASA scientific and technical information database. (no charge)

NASA Continuing Bibliographies - each bibliography assembles recent citations on selected aerospace topics of wide interest, such as *Aeronautical Engineering* or *Earth Resources*. (no charge)

NASA Printed Reports - technical documents prepared by NASA and NASA contractor employees. (no charge)

NASA Microfiche - produced for most NASA documents announced in STAR. (no charge)

SCAN (Selected Current Aerospace Notices) - a semimonthly current awareness publication bringing attention to those documents selected from STAR and IAA that are relevant to particular information interests. (no charge)

RECON (Remote Console) - a computerized, online, interactive system for information search and retrieval, enabling users at remote locations to interact directly with the central scientific and technical information database. (nominal charge)

Literature Search - a service provided for researchers who may desire an individualized search performed by a retrieval specialist at the NASA STI Facility. (nominal charge)

Selected NASA restricted distribution reports are also available to universities that have a NASA Research & Development contract, and are registered with the Facility.

ARIN Users Meeting February 3-4, 1988

RMS Associates joined NASA Headquarters in sponsoring an Aerospace Research Information Network (ARIN) Users meeting at the STI Facility. Meeting sessions were held on February 3 and 4, 1988.

The meeting was designed to provide status information on ARIN, to present new roles and responsibilities for ARIN project management, to provide preliminary training on the Circulation Subsystem, and to present the new implementation plan.

Topics covered at sessions held on Wednesday, February 3 included a definition of roles and responsibilities for the ARIN project; a review of the ARIN Implementation Plan including NASA priorities for implementation; an overview of NOTIS software; a review of ARIN communications and access methods; and reports from ARIN sub-committees.

Sessions held on Thursday, February 4 covered preliminary training in the Circulation Subsystem. Topics included a discussion of the basic functions of the subsystem, and two Circulation demonstrations using PC Storyboard software developed by RMS Associates. The first demonstrated the basic function.

Continued on page 2

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ing of the subsystem, The second discussed each table required to support the subsystem. Copies of the demonstration were given to each NASA center library. Responses to questions from NASA libraries were supplied by RMS Associates and NOTIS System, Inc. staff.

Explanation of barcodes and the NASA requirements for formatting barcodes were presented. Additionally, information on barcode reader equipment tested at the Facility and the specifications for the equipment were provided to each NASA library.

NOTIS System, Inc. staff demonstrated the Key Word Search Facility (KWSF). This new capability will support Boolean searching of library catalog records. A discussion followed which pointed out Institution Group level decisions which must be made in order to implement KWSF.

Have You Moved?

The NASA Scientific and Technical Information (STI) Facility maintains the mailing lists and address file for most of the NASA network. In order to ensure the timely receipt / delivery of NASA products and services, it is very important to maintain complete, accurate and up-to-date addresses and contact points for each user registered with the NASA STI Facility.

Due to the recent circularization many address changes have been reported. So that we can continue to deliver our products and services efficiently, please provide us with any unreported or additional changes on the form below and mail to:

NASA Scientific and Technical Information Facility
Attn: Registration Activity
Post Office Box 8757
Baltimore / Washington International Airport,
Maryland 21240

CHANGE OF ADDRESS

Facility ID No. _____

Organization: _____

Attention: _____

Address: _____

Telephone: () _____

New Thesaurus Terms

Use references recently added to the NASA Thesaurus are listed. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

CRUSTAL DYNAMICS

use EARTH CRUST
GEODYNAMICS

DENATURATION (BIOPOLYMERS)

use BIOPOLYMER DENATURATION

DISEASED VEGETATION

use BLIGHT
Deleted

DISEASED VEGETATION

use PLANT DISEASES

DISEASES

SN Restricted to diseases in animals including man; for diseases in plants see PLANT DISEASES

FUNGAL DISEASES

SN Excludes plant diseases

HARD COAL

use ANTHRACITE

HELICOPTER IMPULSIVE NOISE

use BLADE SLAP NOISE

HELIXES

use CURVES (GEOMETRY)
Deleted

HYPOPHYSIS

use PITUITARY GLAND

NUCLEIC ACID DENATURATION

use BIOPOLYMER DENATURATION

OZONE HOLE

use OZONE DEPLETION

PICTURE ELEMENTS

use PIXELS

PIONEER VENUS ORBITER

use PIONEER VENUS 1 SPACECRAFT

PLASTIC MATERIALS

use PLASTICS
Deleted

POLAR PLATFORMS (SPACE STATION)

use SPACE STATION POLAR PLATFORMS

PROGRAM EVALUATION REVIEW TECHNIQUE

use PERT

PROTEIN DENATURATION

use BIOPOLYMER DENATURATION

RADIO ASSISTED DETECTION AND RANGING

use RADAR

Continued on page 4

NASA/RECON Management Operations Working Group 1988 Membership List

As previously announced, the newly appointed NASA/RECON Management Operations Working Group met on February 17-18, 1988. The meeting was held to assist the STI Division in analyzing and prioritizing immediate and long-range activities concerning the NASA/RECON online bibliographic system. If you would like further information on this meeting, contact John Wilson at (202) 453-2917 or any member of the Group, as listed below:

Sharon Balius

University of Michigan
312 Undergraduate Library Bld.
Eng. Transportation Library
PO Box 855
Ann Arbor, MI 48109
313/764-7494

Wayne Dominick

Southwestern University
Dept. of Computer Science
PO Box 44330
Lafayette, LA 70504
318/231-6308

Jaclyn Facinelli

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Cleveland, OH 44135
216/433-6685

Mike Goehring

ARAC/Indiana University
611 N. Capitol Avenue
Indianapolis, IN 46204
317/262-5056

Patricia Marshall

AIAA/TIS
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New York, NY 10091
212/247-6500

Barbara Newton

AFWL/SUL
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Albuquerque, NM 87117
505/844-7449

Denise Rich

General Electric Company
Space/RESO Libraries, Rm L-1343
Philadelphia, PA 19101
215/354-4701

Jane Riddle

Goddard Space Flight Center
Building 21, Rm 205
Greenbelt, MD 20771
301/286-6152

Sue Seward

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Hampton, VA 23655
804/865-2630

Sarah Stump

Air Products & Chemicals Inc
PO Box 538
Allentown, PA 18105
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Mary Walsh

Ames Research Center
Building 202, MS 202-3
Moffett Field, CA 94035
415/694-5159

Stanley Way

Goddard Space Flight Center
GSFC Code 615
Greenbelt, MD 20771
301/286-8818

John H. Wilson - Chairman

Manager, NASA/RECON Retrieval Services
NASA Headquarters, NTT-2
Washington, DC 20546
202/453-2017

Adelaide Del Frate - Ex-officio

Administrative Librarian
NASA Headquarters, NTT-1
Washington, DC 20546
202/453-2914

Eleanor Burdette - Ex-officio

Chief, S & T Library and Systems Support
NASA Headquarters, NHB-12
Washington, DC 20546
202/453-8526

Royal G. Bivens - Ex-officio

Manager, Information & Network Operations
NASA Headquarters, CU
Washington, DC 20546
202/453-1910

Jeanette Scisum - Ex-officio

Chief, Agency Applications
NASA Headquarters, NHT
Washington, DC 20546
202/453-2152

National Aeronautics and
Space Administration
Code NTT-4
Washington, D.C.
20546

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Postal Manual) Do Not Return

Milestone Firsts of the Space Age

In March:

- March 18, 1965: Aleksei Leonov floats serenely outside his Voskhod II spacecraft, accomplishing the world's first "walk in space."
- March 16, 1966: Gemini VII astronauts Neil Armstrong and David Scott link up with an orbiting Agena target vehicle to accomplish the first docking of two spacecraft.
- March 8, 1969: Lunar Module Spider is put through its paces by Jim McDivitt and Rusty Schweickart in the LM's first flight in Earth orbit.
- March 6, 1986: Soviet Union's Venera 15 spacecraft becomes the first probe to encounter Venus' Valley

LeRC Personnel Change

We are pleased to announce the appointment of Leona T. Jarabek as Chief of the Lewis Library Branch. She fills the position recently vacated by Dorothy A. Morris, who retired after 30 years of outstanding service.

New Thesaurus Terms Continued from page 2

RCB STARS

use R. CORONAE BOREALIS STARS

REGULATORY MECHANISMS (BIOLOGY)

use RN (Restricted to the regulation of physiological and physiochemical processes; excludes ecological, genetic, or biotechnological regulation)

ROM DEVICES

use READ-ONLY MEMORY DEVICES

SHUTTLE GLOW

use SPACECRAFT GLOW

STRAIN DISTRIBUTION

use STRESS CONCENTRATION

Deleted

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NASA STI Facility

P.O. Box 8757

333 M.I. Airport, MD 21240

301 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 453-2917.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 4

Scientific and Technical Information Division

April 1988

NASA/RECON Management Operations Working Group

Representatives from the NASA/RECON user community participated in a two-day NASA/RECON Management Operations Working Group (MOWG) meeting held at the NASA STI Facility on February 17-18, 1988. Hosted by Van Wente and John Wilson of the NASA Scientific and Technical Information Division, the purpose of the meeting was to solicit feedback on various topics affecting NASA/RECON users. A brief synopsis of each is listed below.

Access to Limited Items

Joseph Gignac, Manager, Mission Support Services at the STI Facility, discussed current NASA and Federal guidelines for accessing limited distribution documents. User access depends on current registration status with the Facility. This impacts what kinds of information users can see online and what documents a user can order. NASA HQS personnel explained that although citations appearing in the STI database are unclassified, certain limitations are set by DoD or by a project's technical monitor. NASA is obligated to administer those guidelines.

Accessing Foreign Technology

Mary Walsh from NASA Ames Research Center and C. W. Hargrave opened discussions on accessing foreign technology documents in the STI database. The session focused on the need for continued input of foreign technical reports and methods for isolating those items published in a foreign language. Participants compared methods used by other retrieval systems to separate English from non-English language documents. The discussion ended with the exploration of ways for getting additional foreign documents into the database. Hargrave reported that discussions are under way with the National Space Development Agency of Japan (NASD) for the exchange of information.

Online Ordering

Barbara Newton from AFWL/SUL at Kirtland Air Force Base and C. W. Hargrave introduced a review of the online ordering system. Points covered included availability of documents for purchase in relation to organizational affiliation, fee basing, and on-line verification of orders. A few users raised the point that it was difficult for them to order documents from the Facility because they were not permitted to

open a deposit account with a nongovernment facility.

1988 NASA Thesaurus

John Brosseau, Supervisor of Cataloging and Indexing at the STI Facility, spoke about the newly revised 1988 NASA Thesaurus. Normally published in two volumes every three years, this issue will contain a third volume showing 3,500 term definitions. A brief overview of the work undertaken to revise certain hierarchical sections of the thesaurus was given. The labor intensive nature of this work makes revision a time-consuming endeavor.

RECON Ongoing Operations

Carl Eberline, Manager, ADP Services at the STI Facility, presented an overview of the daily operations of NASA/RECON from 1985-1988. Yearly comparisons were made with respect to the number of Task Assignments made, problems/enhancements encountered, new files added, number of abnormal ends and fixes, and resources allocated. Also discussed were current telecommunications problems associated with the Program Support Communications Network (PSCN) and faster RECON execution time over the past year.

Reconditioning of STIMS and RECON and Ad Hoc Technical Discussions

G. Michael Van Ty Smith, Senior Software Engineer, and various Facility ADP staff discussed a proposed reconditioning of RECON and STIMS in both a formal briefing during the day and an evening session in which topics of concern to MOWG members were covered in greater detail. The formal briefing covered the reasons for undertaking reconditioning, the software engineering goals of reconditioning, and a STRAWMAN proposal for a new RECON command language.

Continued on page 2

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What's New On NASA/RECON

In the past few months several enhancements have been made to the NASA/RECON retrieval system. A few of them are described below.

Now Searchable in R&DCS File

The Contractor Identification Code (CIC) and the Dun & Bradstreet Number (DUN) are now directly searchable in the Research and Development Contract Search (R&DCS) file, the K10K accession series. The CIC, a 7-digit control number, is assigned to organizations involved in contractual relationships with NASA. This control code is searchable, sortable, and displayable with the mnemonic CIC. The DUN is a universal number assigned by Dun & Bradstreet Credit Services to identify a company. This field is searchable, sortable, and displayable with the mnemonic DUN.

The R&DCS file consists of NASA Research and Development (R&D) contracts, grants, and orders from 1972 to the present. It is resident in file collections B,C,D,E,N, O and P. K10K records are not surrogates for documents but are for contracts, which cannot be ordered from the STI Facility.

NASA/RECON MOWG *Continued from page 1*

Training and User Guides

Sharon Balius of the University of Michigan and John Wilson moderated this session. An overview of the online training activities occurring in educational settings was presented. A brief overview was given of the Southwestern Louisiana University curricula for NASA/RECON retrieval. The need for onsite and regional NASA/RECON training in light of budget restrictions was raised.

Approaches to Pricing NASA/RECON Services

John Wilson discussed pricing for NASA/RECON as it relates to Office of Management and Budget requirements. The focus was on adjusting costs in order to be consistent with the NASA mission and available Federal databases. It was noted that NASA is investigating new approaches to charging for NASA/RECON searching. New prices are to be in effect for October 1, 1988.

New Files on NASA/RECON - National Advisory Committee on Aeronautics (NACA), DTIC Work Unit File (DWUF) and Space Commercialization Database

Dian A. Marincola, Supervisor of Online User Support, and Robert Jack, Manager, Technology Utilization, shared a discussion of three new files on NASA/RECON. Emphasis was placed on update frequency and key retrieval issues. Users were reminded that NASA/RECON online ordering is not applicable to

Copyright Display

Records displaying on NASA/RECON that refer to copyrighted materials are now prominently tagged with the word "COPYRIGHT". Affected are accessions in the A10K, A80K, M10K, M50K N10K, N70K, N80K, N90K, X10K, X70K, and X90K series.

New Strategy Sheets Accompany Offline Prints

The search strategy sheet that accompanies offline NASA/RECON output is significantly improved in appearance. Miscellaneous command usage figures no longer clutter the middle of the strategy sheet. This extra space allows the results of 50 sets to be printed on one page instead of two. It saves paper which helps to keep costs down, and makes it easier for a searcher to review a complex strategy.

The most noticeable enhancement to the strategy sheet is the printing of the name "NASA/RECON" in the upper right corner. For several years, users have suggested that the name of NASA/RECON appear somewhere on their output. Along with the obvious marketing benefit, the labeling serves to remind users of the system used to generate the bibliography.

the NACA or Space Commercialization files. Some NACA records are available by contacting Document Supply at the STI Facility (301) 621-0164. Space Commercialization documents are available from NERAC.

User Forum

During the User Forum, attendees were able to re-address items previously discussed at the meeting or introduce new topics. Among the topics mentioned were the need for cross-referencing killed accessions, the need for user input in the *STI Bulletin*, and the PSCN problems experienced by the NASA Centers. Users who would like a full copy of the MOWG meeting summary report may order one by calling (301) 621-0150.

Notice To STI Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other NASA/RECON users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 453-2917.

Three New Fields Added to NASA Tech Briefs

Earlier this year, three new fields were added to the NASA Tech Briefs (B10K) file on NASA/RECON. They are:

Field	Sort/Display Mnemonic
Other Announcements	OTA
Special Publication Note	SPB
Miscellaneous Note	MCN

The OTA field points to where additional information about a technical innovation is available. It also notes the NASA Center of origin to which technical questions about the innovation should be addressed. The SPB field indicates that the innovator(s) was not identified by the corporate affiliation in the brief and cites the name of the corporate affiliation. Records containing an SPB field do not list authors. The MCN field tells where paper or microfiche copies of the Tech Brief are obtainable.

These three fields display when applicable but are not

directly searchable. Typical citations containing these fields are shown below.

The Tech Briefs file is updated and maintained by the NASA Technology Utilization Office from announcements in the *NASA Tech Briefs* journal. It gives concise descriptions of technological innovations resulting from NASA-sponsored research and development. Emphasis is on current awareness and problem-solving information in such areas as new and potential products, new industrial processes, advances in basic and applied research, improvements in shop and laboratory techniques, new sources of technical data, and computer software. Tech Briefs subject categories include electronic components and circuits, electronic systems, physical sciences, materials, life sciences, mechanics, machinery, fabrication technology and mathematics, and information sciences.

For additional information about the Tech Briefs file, contact Walter Heiland, Technology Utilization Office at the NASA STI Facility, (301) 621-0242.

Typical Citations with Examples of OTA, SPB and MCN

87B10189* Category 9 MSC-21167 87/04/00 Vol. 11, No. 4, P. 55

Unclassified Document Domestic

OTA — Additional Information available through: NASA STI Facility, Technology Utilization Office, P.O. Box 8757, Baltimore, MD. 21240-0757

UTTL: Documenting the development of software

UNOC: (Some routine supervisory functions performed automatically. Program management facility (PMF). Computer program integrated software development and control system. Applicable to large software systems involving as many as several hundred programmers and one million lines of codes. It ensures timely and orderly planning, development, implementation, and documentation of software. Designed as support tool. Has many features providing efficient processing and utilization of space for development programmer. Incorporates security system to prevent improper maintenance. Provides full set of cross-referenced reports and supervisory functions for detailed management information. Written in Assembler. IBM program TSO required.)

SPB — Innovator not given. (IBM Group)

MAJS: /*Computer Programs/*Data Management/*Systems Management

87B10434* Category 8 MFS-28162 87/09/00 Vol. 11, No. 8, P. 82

Unclassified Document Domestic

Additional information on microfiche available through: NASA STI Facility, T.O. Office, P.O. Box 8757, Baltimore, MD. 21240

UTTL: Effects of control parameters on a robot welder

UNOC: (Gains and weighting factors in vision-based controller evaluated. Report describes study of trajectory control in vision-based robotic welder. Covers evaluation of user-programmable parameters that dictate control response to perceived error in tracking weld seam.)

AUTH: A/Gangl, K. J.; B/Weeks, J. L. PAA: A/(Rockwell International Corp.); B/(Rockwell International Corp.)

MCN — Paper copy available from: NTIS, Springfield, VA 22161 (Tel: 703-487-4650) Use N80-16587/NSP

MAJS: /*Robots/*Servocontrol/*Welding Machines

National Aeronautics and
Space Administration
Code NTT-4
Washington, D.C.
20546

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PERMIT No. G 27

L1 001 STIBUL 8805053095532A
NASA
SCIEN & TECH INFO FACILITY
ATTN: JUNE SILVESTER
PRODUCT QUALITY
P O BOX 8757 BWI ARPT
BALTIMORE MD 21240

NASA

POSTMASTER: If Undeliverable (Section 158
Postal Manual) Do Not Return

New Publication

A brief description of a publication recently released by the Scientific and Technical Information Division and the Goddard Space Flight Center follows. The source from which the publication is available, the price, and order number are given with the description.

Into the Thermosphere: The Atmosphere Explorers (NASA SP-490)

Into the Thermosphere: The Atmosphere Explorers, NASA SP-490, by Eric Burgess and Douglas Top, provides an overview of the Atmosphere Explorers program with particular emphasis on satellites AE1, AE4, and AE5, which represent early examples of problem-dedicated missions. The AE program used a team approach to make the closely correlated measurements and then to tie the results together into a coherent model of the thermosphere.

Copies may be obtained from the Superintendent of Documents, Washington, DC 20540, for a fee of \$0.50 per copy. The GPO stock number is 063-000-000-1.

Milestone Firsts of the Space Age

In April:

April 1, 1960: TIROS-1, the first successful meteorological satellite, begins three months of observing the world's weather from space.

April 3, 1966: The USSR's Luna 10 ignites its braking rockets to become the first space probe to enter lunar orbit.

April 19, 1971: The first flight of Russia's prototype space station Salyut-1 was launched into orbit.

April 12, 1981: Astronauts John Young and Bob Crippen pilot orbiter *Columbia* on the inaugural voyage of the Space Transportation System.

April 7, 1983: Astronauts Story Musgrave and Don Peterson conduct the first extra-vehicular activity of the Shuttle program in orbiter *Challenger's* payload bay.

April 11, 1984: Working in *Challenger's* cargo bay, astronauts James van Houten and George Nelson make the first in-flight repair of an orbiting satellite.

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 5

Scientific and Technical Information Division

May 1988

Revised BEGIN Menu Displays New File Collections

In the past year, NASA added the NACA Historical File and the Space Commercialization Database file collections to the STI database. References to these collections now appear in the BEGIN menu, as shown below.

A. Aerospace Database: STAR, TAA	1968 to Present
B. All Unlimited, Unclassified Series	1968 to Present
C. Contracts (R&DCS)	1972 to Present
D. Primary R&D (Includes A, B, C, E, and I)	1968 to Present
E. Research in Progress (R&DCS, RTOPS, DWUF)	1972 to Present
F. NALNET Books	Various
G. Earlier Series (Some For Record Only)	Various
H. Earlier Series (Unlimited, Some For Record Only)	Various
I. Aerospace Safety R&D Institute (ASRI)	1975-1976
J. Space Commercialization Database	1968 to Present
M. NALNET Periodicals	Various
N. NALNET Books (E) and Primary R&D (D)	Various
O. Primary R&D—Except Some Limited and Classified	1968 to Present
P. NALNET Books and Primary R&D (Some Limited)	Various
Q. Directory of Numerical Databases	Various
R. NASA Safety Reports	Various
T. NACA Historical File	1915-1962

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. The source from which the publication is available is given following the description. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office, 700 Washington, DC 20540, or from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. For more information, contact the STI Division.

Spacelab: An International Succession (NASA SP-487)

Spacelab is a European-developed and U.S.-operated space laboratory, carried in the cargo bay of the Space Shuttle Orbiter. This story traces the Spacelab Development Program from the origin of the Spacelab concept, describing negotiation and agreement for European participation and the roles of Europe and the United States in system development, operational capability development, and utilization.

planning. It also considers the joint management structure, coordination, and experience in solving management and technical interface problems. The book is not an exhaustive historical treatise, but an informative and readable story of the evolution and technical accomplishments of this unique program and manned space flight and of some of the unusual political and human interest aspects of the program from the viewpoint of one of the key participants.

(Avail. 3/88)

IN THIS ISSUE

- Revised BEGIN Menu
- Display New File Collections
- New Publications
- NASA/RECON Training Schedule
- New Thesaurus Terms
- Have You Moved?
- Milestone Firsts of the Space Age
- DND Update

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NASA/RECON Training Schedule

Below is listed the NASA/RECON training schedule for the latter part of 1988. All classes currently scheduled will be held at the STI Facility near Baltimore, Maryland. Prices listed are for non-NASA personnel.

1988 Basic RECON Session for New Users:

July 20
August 24
September 14
October 20

One day
\$100/person
Class size: 12

The Basic training session is designed for the beginning NASA/RECON searcher, preferably with some online experience. The STI database, file, and record structure are covered along with the basic RECON system commands. Search Strategy formulation, Boolean logic, and query analysis are emphasized as they pertain to the NASA/RECON system. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1988 Advanced RECON Session for Experienced Users:

September 15
November 16

One day
\$160/person
Class size: 6

The Advanced training session is designed for the experienced NASA/RECON searcher. Basic text searching is reviewed as well as more in-depth text searching techniques. Advanced RECON system features and stored search formulation and editing are covered. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

NASA/RECON Training Registration

Pre-registration is required for all training sessions. To register, call RECON Services at (301) 621-0150 between 8 am and 4:30 pm ET, Monday through Friday. If a preferred session is closed, ask to be wait-listed. A confirmation letter and registration package will be forwarded for each reservation placed.

Reservations may be cancelled or changed up to five business days before the session. Cancellations after that date and no-shows will be billed for the full amount. New users are entitled to one free training class.

You may be billed to a standing RECON purchase order, to a new purchase order, or you may pay with a company or personal check.

New Thesaurus Terms

Use references recently added to the NASA thesaurus are listed. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

AIRCRAFT INTERIORS

Use AIRCRAFT COMPARTMENTS

ANATOMY

SN (limited to animal anatomy)

ANGELS

Transferred to ANGELS (TRAP)

ASTRONOMICAL TELESCOPES

Use TELESCOPES

AUXILIARY EQUIPMENT (COMPUTERS)

Transferred to PERIPHERAL EQUIPMENT

(COMPUTERS)

AUXILIARY EQUIPMENT (COMPUTERS)

Use PERIPHERAL EQUIPMENT

(COMPUTERS)

BRONCHIAL TUBES

Use BRONCHI

CARBON COMPOUNDS

SN (restricted to inorganic compounds)

CHARGED PARTICLES

SN (for toxic particles see IONS)

ECOS

Transferred to SPACE STATIONS

FIBER REINFORCED COMPOSITES

Transferred to FIBER COMPOSITES

IONIZED GASES

SN (limited to partially ionized gases; see PLASMAS (PHYSICS) for completely ionized matter)

LEON-QUERETARO AREA (MEXICO)

Deleted

MAGNETOSPHERE

Transferred to EARTH MAGNETOSPHERE

Continued on page 3

NASA/Army Rotorcraft Technology
(NASA CP-2495 (3 volumes))

The 1987 NASA/Army Rotorcraft Technology Conference was held at Ames Research Center, Moffett Field, California, March 17-19, 1987. The conference proceedings is a compilation of over 30 technical papers presented at this milestone event which reported on the advances in rotorcraft technical knowledge resulting from NASA, Army, and industry rotorcraft research programs over the last 5 to 10 years. The conference brought together over 230 government, industry, and allied nation conferees to exchange technical information and hear invited technical papers by prominent NASA, Army, and industry researchers covering technology topics including aerodynamics, dynamics and aeroelasticity, propulsion and drive systems, flight dynamics and control, acoustics, systems integration, and research aircraft. (Avail: NTIS)

COSMIC Software Catalog (1988 Edition)

NASA's Computer Software Management and Information Center (COSMIC) was established at the University of Georgia to distribute software developed with NASA funding. As part of NASA's Technology Transfer Network, it ensures that industry, other government agencies, and academic institutions have access to NASA's advanced computer software technology.

The 1988 edition of the annual COSMIC Software Catalog contains descriptions of the 1,219 computer programs available for use within the United States as of January 1, 1988. Source code is provided for each program so that the user can study program capabilities and modify or enhance as needed. The program documentation is available separately so the user can purchase it first to review capabilities in detail.

NASA's ongoing development of software provides new programs for the COSMIC inventory throughout the year. This Catalog is the major reference on NASA-developed software. However, you request the COSMIC staff will review the database to determine whether programs for your applications have been made available since the catalog's publication. Information from the review will be provided to you at no charge.

The 1988 edition of the *COSMIC Software Catalog* is available from COSMIC, Athens, Georgia 30602, at the price of \$25.00. If you have questions about programs or orders, call COSMIC's Customer Support Department at (404) 542-3265.

NUCLEIC ACID DENATURATION
use BIOPOLYMER DENATURATION

ORBITING SATELLITES
use ARTIFICIAL SATELLITES
Deleted

PROTEIN DENATURATION
use BIOPOLYMER DENATURATION

SATELLITE AND MISSILE OBSERVATION
SYSTEM
use SAMOS

STRAIN DISTRIBUTION
use STRESS CONCENTRATION
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Have You Moved?

The NASA Scientific and Technical Information (STI) Facility maintains the mailing lists and address file for most of the NASA network. In order to ensure the timely receipt/delivery of NASA products and services, it is very important to maintain complete, accurate and up-to-date addresses and contact points for each user registered with the NASA STI Facility.

Due to the recent circularization many address changes have been reported. So that we can continue to deliver our products and services efficiently, please provide us with any unreported or additional changes on the form below and mail to:

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Attn: Registration Activity
Post Office Box 8757
Baltimore 7 Washington International Airport
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PRODUCT QUALITY
P O BOX 8757 BUI ARPRT
BALTIMORE MD 21240

NASA

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Postal Manual) Do Not Return

DND Update

The most recent update to the Dictionary of Numerical Databases (DND) added 20 records from the Planetary and Helio data catalogs for the National Space Science Data Center (NSSDC). In addition, 209 records from the Galileo man project involving space shuttle wind tunnel test data were added.

Notice To STI Bulletin Readers

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Milestone Firsts of the Space Age

In May

May 5, 1961: Alan Shepard becomes the first astronaut as he pilots his Mercury spacecraft Freedom 7 on a 15-minute, suborbital hop, atop a Redstone booster.

May 14, 1973: Skylab, the first rudimentary U.S. space station, is boosted into orbit by the last Saturn V.

May 6, 1986: Cosmonauts Leonid Kozlov and Vladimir S. Soloviyev make the first transfer between two space stations, Mir and Salyut 7.

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 6

Scientific and Technical Information Division

June 1988

Technical Publications Program Productivity Initiative

NASA is seeking to improve the overall efficiency, quality, and timeliness in production and publication as a productivity initiative. Quality and timeliness are expected to increase by acquisition and implementation of new or updated equipment or state of the art technology and aggressive tracking of reports during the production phase.

Increased quality will provide documents with text that is more easily read. Legibility will be increased and technical data can be presented in clear but more comprehensive illustrations.

Increased timeliness will provide reports to scientists and engineers earlier, keeping researchers better informed and decreasing duplicate research. A more timely report increases the value of the information.

Quality Standards

An increase in the quality of reports will occur as a result of increasing usage of automated equipment. Automated equipment or technology such as electronic transfer or optical character readers (OCRs) will provide for improved quality while still allowing for timely production. This equipment or technology will provide the capability for minor editing, standard formatting, uniform illustrations, and clean printout.

Quality increases will be realized through use of the following:

Optical character readers and electronic transfer
These technology options will allow corrections and clean printout of texts now accepted without modification in the interest of getting a report to the users in a timely manner. The equipment will allow reformatting of author illustrations for uniform style without total redrafting, and will enhance report presentation.

Color computer graphics
This capability will allow the author to create illustrations presenting data in a single complex, but more comprehensive, color graph, rather than in a series of monochromatic graphs.

Timeliness Standards

The current measurement system indicates that it takes an average of 157 days to produce a report, from writing to publication and including technical

review. The time required for the production and printing phases, including author review of production, is measured at 84 days. No attempt will be made to improve the time of the review phase, except through attention to schedules.

The number of authors and their clerical support having personal computers for writing and for making revisions is expected to increase. Thus time spent in the writing and revision phases should decrease.

NASA is now encouraging the more than 7000 NASA R&D authors to submit their written material and drawings not only on paper, but also via electronic transfer. Reports so delivered will not require rekeyboarding. Editing software will allow online editing of text, electronic formatting according to standards, followed by typesetting by GPO or its contractors without rekeyboarding.

NASA documents contain many illustrations and drawings which, when generated by hand, require a substantial amount of time. NASA is seeking to reduce this burden by using state of the art computer graphics technology to produce these drawings, at a greatly reduced investment in staff time.

The technology provided by OCRs will be used where available, or the equipment will be acquired where possible. The use of OCRs will greatly decrease the time expended in rekeyboarding extensive technical material that is not provided in electronic format.

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STI Division Moves

The Scientific and Technical Information Division, NASA Headquarters, formerly located at 7th and D Sts. SW, has moved to L'Enfant Plaza. The new telephone numbers for key personnel are listed below:

National Aeronautics and Space Administration
Scientific and Technical Information Division
Code NTT
Washington, DC 20546-0001

NTT

Van A. Wente 755-1089
Philip A. Thibideau 755-1078

NTT-1

James B. Phillips 755-1234
Adelaide Del Frate 755-1030
Walter B. Pierce 755-1061

NTT-2

John H. Wilson, Jr. 755-1246

NTT-3

Kay E. Voglewede 755-1191
Rebecca W. Miller 755-1204
Kenneth G. Carroll, Jr. 755-1192

NTT-4

Charles W. Hargrave 755-1079
Patricia A. Sullivan 755-1076

Older NASA TMs and SPs Now Available

The NASA STI Facility has received from *UPDATA Publications* the National Aeronautics and Space Administration Technical Memorandum 1959 - 1963 Collection, and Special Publication 1962 - 1965 Collection on microfiche. The report number range of the TM Collection is from TM-X-1 through TM-X-905. The report number range of the SP Collection is from SP-1 through SP-45. An occasional report in these ranges was not available to *UPDATA* for filming, and therefore was not included in the collection.

The NASA STI Facility will make blowback copies of these microfiche available to registered users upon request at the standard NTIS price. For those reports currently in the STI database, your technical library may order through the online order command. For additional information contact Delores Johnson (301) 621-0146 at the NASA STI Facility.

Milestone Firsts of the Space Age

In June:

- **June 16, 1963:** The Soviet Union sends Vostok VI into orbit carrying the world's first female spacefarer, 26-year-old Valentina Tereshkova.
- **June 3, 1965:** Edward H. White II takes the first American spacewalk, maneuvering for twenty minutes outside the Gemini IV spacecraft.
- **June 2, 1966:** Surveyor I, the first American vehicle to soft-land on the Moon, touches down gently in the Ocean of Storms.
- **June 13, 1983:** Pioneer 10 becomes the first spacecraft to exit the Solar System as it speeds past the orbit of Neptune.
- **June 18, 1983:** Rocketing aloft aboard orbiter Challenger, Sally Ride becomes the first American woman to fly in space.

From the Centers

LeRC

On May 4, 1988 Lewis Research Center held its annual Honor Awards Ceremony. Dorothy A. Morris was among the honorees. She was awarded an Exceptional Service Medal in recognition of "distinguished performance in developing technical information systems and providing outstanding library services to the Lewis Research Center staff." After the ceremony the ARIN Circulation Module recently installed at LeRC was demonstrated. Ms. Morris was delighted to see that milestone.

NSTL Name Change

Please be advised of the recent change in name of the *NASA/National Space Technology Laboratories (NSTL)* to *John C. Stennis Space Center (SSC)*. The new name is effective immediately. Also, the address will change as follows:

Addressee's Name
Addressee's Title
Mail Code
John C Stennis Space Center
Stennis Space Center, MS 39529-6000

Necessary changes will be made to the ARIN database. The library staff has determined that the library will be referenced as follows:

NASA/Stennis Research Library

NASA Thesaurus Definitions ...for Scope and Coverage

The lexicography staff at the NASA STI Facility has developed definitions for 58 NASA Thesaurus terms as part of the effort to revise the *NASA Scientific and Technical Information System ... its Scope and Coverage*. These definitions will be added to the NASA Thesaurus definitions file and will be published in the *NASA Thesaurus Supplement*, NASA SP-7064 (Suppl. 1). A partial list of the definitions is given below. Look for the remaining definitions in subsequent issues of this *Bulletin*.

air navigation

The art, science, or action of plotting and directing from within an aircraft its movement through the air from one place to another.

air transportation

The use of aircraft, usually airplanes, to move passengers and cargo from place to place.

aircraft communication

The conveyance of information to or from aircraft by radio or other signals.

aircraft design

Plans for the structure of any apparatus, machine, or contrivance, especially a vehicle, intended to be supported by air, being borne up either by dynamic action of the air upon the object's surfaces, or by the object's own buoyancy; also the values of the parameters of the aircraft's systems.

aircraft performance

The manner in which any airborne structure, machine, contrivance, or especially a vehicle, functions while in operation.

aircraft safety

Techniques used to prevent aircraft failures or accidents.

astronautics

The science and art of designing, constructing, and operating spacecraft.

astronomy

The scientific study of all aspects of the heavens: compositions, distances, evolution, magnitudes, masses, and motions of celestial bodies. The science now includes a number of specialized branches such as radio astronomy, X-ray astronomy, astrometry, astrophysics, celestial mechanics, and cosmology.

atomic physics

The study of the structure and characteristics of atoms.

chemistry

A science that studies the identification, composition and properties of elements, their combinations, reactions, and applications.

climatology

The science that studies climate and its variations.

computer programming

The writing of a sequence of tasks to be performed by a computer, the scheduling, or the actual performance of these tasks.

computer programs

Coded sequences of instructions regarding operations to be performed by a computer.

computer systems

Defined configurations of hardware, software, and processes used to fulfill data and information processing requirements.

cost analysis

Examination of the effects on expenses and profits of various procedures that might be used by a business or enterprise in creating or supplying its goods or services.

earth resources

Power sources and renewable or nonrenewable materials occurring naturally on Earth.

economics

The study of the production, distribution, and consumption of goods and services.

electrical engineering

The useful application of the knowledge of electricity and its properties.

energy conversion

The change of a working substance or natural power into a more usable form, such as electricity or mechanical motion.

engineering

The useful application of the knowledge of scientific principles, properties, and power sources.

Continued on page 4

Express Delivery Service

Need a document in a hurry? At your request your documents will be sent by Federal Express and your organization will be billed accordingly. To request Express delivery online, please use ***EX*** for the first 4 characters before the requester name.

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Space Administration
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Washington, D.C.
20546

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Postal Manual) Do Not Return

NASA Thesaurus Definitions *Continued from page 3*

environment pollution

Undesirable conditions produced in the atmosphere or water by foreign substances, noise, or thermal sources.

firmware

Software so frequently used that it is hard-wired into an electronic circuit.

fluid mechanics

The study of the characteristics, behavior, and applications of liquids and gases under various physical conditions.

hardware

Electronic and electromechanical devices that make up a computer.

inorganic chemistry

The study of noncarbon elements, including their identification, composition, properties, combinations, reactions, and applications.

launch vehicles

Machines or vehicles, including catapults, by means of which airplanes, rockets, or the like are directed, hurled, or sent forth.

law (jurisprudence)

A rule or collection of rules for action or conduct binding upon the population of a community.

lunar exploration

Scientific investigation of the Moon by means of probes or manned or unmanned missions.

management

The act or art of conducting, directing, supervi-

sing, or controlling the operation of a business, enterprise, or similar endeavor.

masers

Amplifiers utilizing the principle of microwave amplification by stimulated emission of radiation.

mathematics

The study of the logical relationships among abstract entities. These relationships are expressed in numbers, symbols, and signs and may also be applied to concrete data such as measures and properties of shapes.

mechanical engineering

The useful application of the knowledge of mechanical devices and their properties.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 755-1246.

Detach label with instructions for address or distribution change and mail to: ATTN: STI Services Section, NASA STI Facility.

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 7

Scientific and Technical Information Division

July 1988

NASA FAR Supplement Requires Data Delivery

The Federal Acquisition Regulations provide for the delivery of data from all NASA contractors to the installations for which they provide service. In order to aid those installations and contractors in meeting their reporting requirements, a portion of NASA FAR Supplement 18-27.474 is reprinted below.

To the extent feasible, all known data requirements, including the time and place for delivery and any limitations and restrictions to be imposed on the contractor in the handling of the data, shall be specified in the contract. In establishing the contract data requirements and in specifying data items to be delivered by a contractor, NASA installations shall be in accordance with paragraph (b) below. Development of their own contract schedule provisions, including data requirements lists and data description documents, including listing, specifying, describing, identifying, classifying, assuring delivery of, and handling any data required to be delivered, first produced, or specifically used in the performance of the contract production phase.

(b) Specifying data delivery requirements

(1) The requirements for technical and other data, including computer software and documentation thereon, to be delivered as an element of performance under any contract, as well as the delivery schedule thereon, should, to the maximum extent practicable, be either specified or referenced in a single section of the contract addressing data delivery requirements. Any specifications used to describe the data, in terms of type, purpose, and format, should also be referenced in that single section of the contract and made applicable to the data required to be delivered.

(2) The contractor, normally, shall submit progress reports of work performed under research and development contracts. These reports shall be reimbursable, and each may be a contract milestone report and a reimbursable report. The contractor shall be considered responsible for fulfilling the contract performance. This should be achieved by providing, at a minimum, the following general requirements, modified as needed to meet the particular requirements of the contract, in the section of the contract specifying data delivery requirements:

(A) *Monthly progress reports.* The contractor shall submit separate monthly progress reports of all work accomplished during each month of contract perfor-

mance. Reports shall be in narrative form, and brief and informal in content. They shall include a quantitative description of overall progress, an indication of any current problems which may impede performance and proposed corrective action, and a discussion of the work to be performed during the next monthly reporting period. (Normally, this requirement should not be used in contracts with non-profit organizations.)

(B) *Quarterly progress reports.* The contractor shall submit separate quarterly reports of all work accomplished during each three month period of contract performance. In addition to factual data, these reports shall include a separate analysis section which interprets the results obtained, recommends future action, and relates occurrences to the ultimate objectives of the contract work. Sufficient data, charts, sketches, curves, photographs, and drawings shall be included to convey the intended meaning.

(C) *Final report.* The contractor shall submit a final report which documents and summarizes the results of the entire contract work, including recommendations and conclusions based on the experience and results obtained. The final report shall include tables, graphs, diagrams, curves, sketches, photographs, and drawings in sufficient detail to comprehensively explain the results achieved under the contract.

(D) *Report Documentation Page.* The contractor shall include a completed Report Documentation Page

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(NASA Form 1626) as the final page of each report submitted pursuant to paragraphs (A) through (C).

(E) *Submission.* The required numbers of copies of the reports specified in paragraphs (A) through (C) shall be submitted to the technical monitor of the contract (in the absence of other instructions from the requesting activity). In addition, a reproducible copy and a printed (or reproduced) copy shall be sent to: NASA Scientific and Technical Information Facility, Attn: Accessioning Department, P.O. Box 8757, Baltimore/Washington International Airport, MD 21240.

Milestone Firsts of the Space Age

In July:

- **July 10, 1962:** Television "live" via satellite becomes a reality as Telstar I relays the first test broadcast between Europe and the United States.
- **July 14, 1965:** After an eight-month journey, Mariner IV provides the first close-up images of the Martian surface.
- **July 20, 1969:** Neil Armstrong and Buzz Aldrin exit LM *Eagle* to begin the first human exploration of the Moon's surface "for all mankind."
- **July 17, 1975:** The Apollo Soyuz Test Project accomplishes the first orbital linkup of American and Soviet spacecraft.
- **July 20, 1976:** After its slow descent to a soft landing on Chryse Planitia, Viking II transmits the first images from the Martian surface.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. The source from which the publication is available is given following the description. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402, or from the National Technical Information Service (NTIS), Springfield, VA 22161. The price and order number are given, where available, with the descriptions.

NASA Historical Data Book, NASA SP-4012. 3 vols. This series offers a comprehensive, factual database on NASA and its programs from 1958 through 1978. Volume I, which is a reprint of SP-4012 of the same name, was originally announced as N76-24142. It is subtitled *NASA Resources, 1958-1968*, and deals primarily with NASA's changing budget and financial history, its installations and facilities, its manpower resources, and its procurement and contractual activities. Finally, a summary history of each NASA field installation including tables on property, personnel, finances, and procurement is presented.

The second and third volumes address the agency's major programs and projects: space science and applications, manned spaceflight, launch vehicle development, tracking and data acquisition, and advanced research and technology from 1958-1968 and 1969-1978, respectively. Each book provides information on program management, a tabular fiscal history, and detailed descriptions of the programs and projects, including pre-NASA origins, objectives, constituents, and results.

Available from GPO, order number 035-000-01017.
Price: \$57.00 per set.

(Continued on page 4)

Searching Corporate Sources

The COSATI rules for corporate sources state that when an organization changes its name, a new code must be created to correspond to the new name. The old code is retained for documents produced by the organization under its former name. Therefore, in searching NASA/RECON by corporate source, it is sometimes necessary to use more than one corporate source code to retrieve all the documents produced by a given organization.

The following are examples of name changes which necessitate the use of more than one code:

NASA/Hugh L. Dryden Flight Research Center	ND100200
NASA/Hugh L. Dryden Flight Research Facility	ND102102
NASA/Wallops Flight Center	NE157849
NASA/Wallops Flight Facility	NE200400
NASA/National Space Technology Laboratories	ND815748
NASA/John C. Stennis Space Center (formerly NSTL)	ND103456

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1987 Foreign Technology Bibliographies

This year, three 1987 Foreign Technology Bibliographies will be available to authorized recipients. Each will include 1987 accessions from the NASA STI database pertaining to the astronautical and aeronautical development in the referenced countries.

Japanese Science and Technology 1987, NASA SP-7067

This bibliography, which is now available, is the fourth in the series and includes all items relevant to Japanese technology accessioned in the NASA STI database in 1987. Its subject coverage is broad in scope. Items of Japanese origin and any item whose subject content dealt with Japanese technology were selected from the NASA STI database for this bibliography. Primary subject areas of interest include: lasers, electronics, semiconductor materials, crystal growth and materials processing, chemistry and materials, and computer systems and robotics.

Soviet Science and Technology 1987, NASA SP-7066

The technical literature covered in this bibliography describes research and development performed by the Soviets. The references were compiled from the NASA STI database based on the *Aeronautical En-*

gineering, NASA SP-7037 profile supplemented with the following subject areas: computer systems and man-machine systems; plasma physics; lasers; optics; chemistry and materials; remote sensing and climatology; microgravity applications; polymers, and crystal growth; and space sciences; space biology; and bioelectronics. The coverage is limited to items accessioned in 1987, and the bibliography will be available later this year.

European Science and Technology 1987, NASA SP-7068

This recently released bibliography includes items accessioned into the NASA STI database in 1987 relevant to research and development performed primarily by the NATO countries of continental Europe (France, West Germany, United Kingdom). As with the Soviet bibliography the selection was based on the *Aeronautical Engineering*, NASA SP-7037 profile. Supplemental topics of interest include the following: space commercialization; mathematics; fluid mechanics; composite materials; materials processing; and fatigue; physiology of flight and human factors; microcomputer applications; electromagnetic wave propagation; and space policy and international cooperation.

For more information concerning the availability of the Foreign Technology bibliographies contact John Wilson at NASA Headquarters, NE-2, (202) 755-4246.

NASA Thesaurus Definitions Now Online

NASARECON has been enhanced to provide NASA Thesaurus subject term definitions online along with the correct capitalization form of the term. This is accomplished by using the DISPLAY command as follows:

ENTER: DISPLAY DEF/HIGH REYNOLDS NUMBER

ST: HIGH REYNOLDS NUMBER

SN: TRN ABOVE 30000

ULC: high Reynolds number

DEF: Reynolds number, and Reynolds number of a sphere

SOURCE: NASA STI FACILITY 1982

The definitions display provides the following information:

ST: subject term

SN: scope note

ULC: uppercase/lowercase form

DEF: definition

SOURCE: source of the definition, and year the term (not the definition) was added to the NASA Thesaurus

The new online definitions capability enables the user to find definitions for most terms added to the NASA Thesaurus since 1970 as well as many terms added earlier. Various terms are not defined, such as common place names, chemical elements, specific models of computers, and nontechnical terms. Should a user DISPLAY a term that has not been defined, a DEFINITION NOT AVAILABLE message appears. A nonthesaurus term or an incorrectly entered term produces a TERM NOT FOUND IN THE SAURUS message.

Source of Definitions

Definitions are currently derived from these publications:

ASTM, *Compilation of ASTM Standard Definitions*, 6th Edition, Philadelphia, PA, ASTM, 1986. Copyright, The American Society for Testing and Materials (ASTM). All rights reserved. Used with the permission of ASTM. The original definitions appeared in the *Annual Book of ASTM Standards*.

DOE *Energy Data Base Subject Thesaurus* (DOE/TIC-7000-R7), Oak Ridge, TN, Department of Energy, 1987.

Continued on page 4

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NASA

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Available from NTIS at no cost as ER PB 80-000000

A scope note is provided when necessary to clarify term ambiguity, and the correct capitalization form of the subject term is displayed in the UIC: upper case/lower case field.

Criss-Cross Directory Available Through SLA

It is available from George Mandel, MS 60-7,
 "The Search Information Serv. Div.," NSA, Lewis &
 Clark Center, 21000 Brookpark Road, Cleveland, OH
 44135, at a price of \$55.00. Make checks payable to
 Aerospace Division, NSA.

each label with instructions for address or distribution changes
and mail to: ATTN: Registration Activity, NASA STI Facility

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 8

Scientific and Technical Information Division

August 1988

Current Awareness Tool for Managers Available Online

Did you know... there is a weekly current awareness service entitled *Managers on NASA/RECON*? Are you interested in new developments in space commercialization, Congressional and legislative reports, new business methods and trends, research and development programs, and many more timely subjects?

Every Monday morning a list of twenty A10K and N10K citations (including books) is compiled. Items of interest to managers and administrators of NASA Headquarters, NASA Centers, and NASA Contractors are selected for pertinence to NASA's mission, management, and foreign technology exchange.

Any NASA/RECON user may utilize the service by executing the *Managers* stored search from within File Collections A, B, D, N, O, and P, as follows:

QUERY EXECUTE MANAGERS(NAHQ).

Once the stored search has ceased execution, simply use the DISPLAY, BROWSE or TYPE command to review the results.

Some of the subject areas covered by the weekly service are:

- Current aerospace technology on present and future NASA space missions, including aerospace medicine.

- Technologies of the European space programs as well as those of the U.S.S.R. and Japan.
- New management methods, business trends, and policies concerning procurement, financial, contract, personnel, and research management.
- Congressional and legislative reports, Federal budgets, and appropriations of the NASA programs.
- New developments in database management systems.
- Current reports on international trade, market research, and economics.
- Current research in artificial intelligence, expert systems, and robotic technology.
- Current technology transfer, assessment, and utilization.
- Current reports on international relations, cooperation, and space law.

Computer Aided Indexing Article Published

An article written by Ronald L. Buchan, Lexicographer at the NASA STI Facility, was published in the *Reference Librarian*, Summer 1987 p. 269-277. The article, titled "Computer Aided Indexing at NASA," is available on AIAA microfiche as A88-24200. It is also available from the AIAA Technical Information Service, 555 West 57th St., 12th Floor, New York, NY 10019, (212) 247-6500. The article deals with NASA Thesaurus-related computerization activity at the STI Facility. It includes coverage of a unique computerized technique called Retrospective Indexing. The technique enables one to retrospectively index information with new terminology. An abstract of the article follows.

The application of computer technology to the construction of the NASA Thesaurus and in NASA Lexical Dictionary development is discussed in a brief overview. Consideration is given to the printed and online versions of the Thesaurus, retrospective indexing, the NASA/RECON frequency command, demand index-

ing, lists of terms by category, and the STAR and IAA annual subject indexes. The evolution of computer methods in the *Lexical Dictionary* program is traced, from DoD, DOE, and Library of Congress Subject Headings subject switching to machine-aided indexing. Current techniques for handling natural language (e.g., the elimination of verbs to facilitate breakdown of sentences into words and phrases) are described.

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ANSI-STD In / MIL-STD Out

[This article, written by Barbara Lesser, was originally published in the July 1988 issue of *Defense Technical Information Center Digest*.]

For several years there has been a movement in the federal government to adopt non-government standards wherever it is feasible. The goal is to reduce duplication of effort and to eliminate gaps that exist between government and non-government standards. In the fall of 1987 a project was set up by DTIC with the Defense Standardization Program Office to have the Military Standard (MIL-STD) 847B, *Format Requirements for Scientific and Technical Reports Prepared By or For the Department of Defense*, replaced by American National Standards Institute (ANSI) Standard Z39.18 -1987, *Scientific and Technical Reports: Organization, Preparation, and Production*. Coordination packages were sent out in late November 1987 and concurrences from all the Services were received in early May 1988. As of May 25, 1988 the ANSI Standard replaces the Military Standard.

The ANSI Standard is comprehensive and is applicable to a wide variety of technical reports. Using the Standard as a general guideline, organizations may supplement it with their own requirements to meet criteria they have established for their own publications.

Adoption of the ANSI Standard by the DoD gives contributors more flexibility in how they format reports, making it easier for them to submit reports to DTIC. The Standard is available from either the Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120-5099 or from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

Reference Products Updated

The 1988 updates to the *Acronym Dictionary* and the *Corporate Source Cross-Reference* are now available. The *Acronym Dictionary*, compiled from material used over the years as a tool for NASA STI Facility abstracters, is an ad-hoc reference rather than a systematic collection of all acronyms related to aerospace science and technology. This updated dictionary contains approximately 2,000 expanded acronyms.

The *Corporate Source Cross-Reference* also originated as a tool for input processing at the NASA STI Facility. The reference contains alternate forms of corporate names which are cross-referenced to the authorized form in the *Corporate Source Authority List*. The list includes acronyms, alternate spellings, obso-

lete forms, names of corporate divisions, and other forms not acceptable according to the COSATI rules for citing corporate names. Generally, the CSAL reference in the cross-reference list includes only the corporate name and not the location. This updated cross-reference contains approximately 2,300 entries.

These products are available for \$11.50 each. Contact Delores Johnson at the NASA STI Facility (301) 621-0147.

Milestone Firsts of the Space Age

In August:

- **August 12, 1960:** The first passive communications satellite — a giant aluminized balloon appropriately named *Echo I* — is rocketed into orbit from Cape Canaveral.
- **August 7, 1961:** Cosmonaut Gherman Titov completes the first day-long manned space flight, making 17 orbits of the Earth aboard Vostok II.
- **August 12, 1977:** The Space Shuttle program takes wing as the prototype orbiter *Enterprise* makes its first atmospheric test flight.
- **August 30, 1983:** Guy Bluford becomes the first black American in space as a mission specialist on *Challenger's* STS-8 crew.

NASA Thesaurus Definitions ...for Scope and Coverage

The Lexicography staff at the NASA STI Facility has developed definitions for 58 NASA *Thesaurus* terms as part of the effort to revise the *NASA Scientific and Technical Information System ... its Scope and Coverage*. These definitions will be added to the NASA *Thesaurus* definitions file, and will be published in the *NASA Thesaurus Supplement*, NASA SP-7064 (Suppl. 1). The definitions listed below are continued from the July 1988 issue of the *STI Bulletin*.

molecular physics

The study of the structure and characteristics of molecules.

nuclear physics

The study of the structure and characteristics of the atomic nucleus.

oceanography

The science that studies all aspects of seas and oceans.

Continued on page 3

optics

The study of the transmission and polarization properties of visible radiation.

organic chemistry

A study of carbon and carbon compounds, including their origins, properties, reactions, and applications.

photography

A process for recording visual images by exposing a light-sensitive substance to radiation such as light, infrared, or X-rays.

physical chemistry

The study of the physical aspects of chemistry such as structures of compounds or measurements or properties of chemical interactions.

physics

The science that studies the elementary principles and laws of nature.

plasma physics

The study of the nature and properties of highly ionized gases (comprised of free electrons and charged nuclei) with application to fusion energy devices.

power

The application of energy to do work.

propulsion

The action or process of imparting motion to an object by means of a force, such as a thrust of air or energy released by burning fuel.

solar physics

The study of the structure and activities of the Sun.

solid state physics

The study of the physical structure and properties of solid matter, including crystallography and band structure, and magnetic, electric, and dielectric properties.

space communication

The act of, or methods for, conveying or receiving intelligible information from beyond the Earth's atmosphere.

space exploration

Scientific investigation of extraterrestrial bodies and phenomena by means of probes or manned or unmanned missions.

space transportation

Means of conveyance or the act of conveying or traveling to, through, or from outer space.

spacecraft communication

The act of, or methods for, conveying information to or from manned or unmanned spacecraft.

spacecraft design

Plans for the structure of any apparatus,

machine, or contrivance, especially a device intended to be placed into orbit around the Earth or into a trajectory that escapes the Earth's atmosphere; also the values of the parameters of the spacecraft's systems.

Notice To STI Bulletin Readers

If you have announcements or articles of general interest to the STI community or search techniques you would like to share with other NASA/RECON users please provide them to us. This is your publication and your input is vital to its success. Contact Jackie Streeks at the NASA STI Facility (301) 621-0105 or John Wilson at NASA Headquarters (202) 755-1246.

Have You Moved?

The NASA Scientific and Technical Information (STI) Facility maintains the mailing lists and address file for most of the NASA network. In order to ensure the timely receipt / delivery of NASA products and services, it is very important to maintain complete, accurate and up-to-date addresses and contact points for each user registered with the NASA STI Facility.

Due to the recent circularization many address changes have been reported. So that we can continue to deliver our products and services efficiently, please provide us with any unreported or additional changes on the form below and mail to:

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Postal Manual) Do Not Return

New Publication

A brief description of a publication recently released by the Scientific and Technical Information Division follows. The source from which the publication is available is given with the description.

Reflectance Spectroscopy in Planetary Science: Review and Strategy for the Future, NASA SP-493

This report is the result of a workshop commissioned by the Planetary Geology and Geophysics Program of the NASA Office of Space Science and Applications, Division of Solar System Exploration. The purpose of this workshop was to review the field of reflectance spectroscopy as it is relevant to the sponsoring Program. The report addresses the basis for the field, its contributions, present conditions, and future directions and needs as well as the science and technique, particularly in light of the need for future space mission support. The scope of this report is limited to reflectance spectroscopy in the visible and near infrared regions and its application to remote sensing of planetary surfaces and atmospheres other

than Earth. All aspects of the field are covered: spacecraft, telescope and laboratory measurement capability, previous science results, current and future problems, analysis and interpretation capabilities and techniques, and laboratory and theoretical studies of material properties. (Avail GPO)

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

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Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 755-1246.

Detach label with instructions for address or distribution change and mail to: ATTN: Registration Activity, NASA STI Facility.

STI Bulletin

Scientific and Technical Information

Volume XVIII, No. 9

Scientific and Technical Information Division

September 1988

Focus n...

Beginning with this issue, each month the STI Bulletin will feature a product or service provided by personnel at the STI Facility. This month the Bulletin will focus on:

THE NASA STI DOCUMENT ORDERING SERVICE

The NASA document ordering service, which is available to those in the NASA aerospace community who are registered to receive products and services, provides quick and convenient access to the vast holdings of case files, stock copies, and microfiche stored at the NASA STI Facility — more than 3 million accessions.

With few exceptions, the 75 to 100 daily orders are processed and mailed within 2 to 5 working days after receipt. Users are invoiced monthly for document orders. NASA contractors are charged standard NTIS prices for hardcopy and microfiche. Completed orders are shipped via first class mail or, if the requester prefers, by overnight mail. Charges for the overnight mail services are itemized on the user's monthly invoice.

Most orders are received electronically via the NASA/RECON system. A smaller number of orders received by telephone, letter, or facsimile are then keyed into the NASA/RECON online order system.

When the online order is placed, the system immediately validates the order by electronically comparing the requester's registration profile with his/her security classification and any limitation which may be imposed upon the document. The order system provides the online user with an immediate feedback message which indicates either that the order was accepted for processing or cannot be filled, or it provides a referral to another agency such as Univ. Microfilm where documents unavailable through the Facility might be acquired.

Document orders are filled by one of these methods:

1) A stock copy is provided, if available, or a Diazo reproduction of a microfiche may be made upon request; 2) A copy is reproduced from the case file using a high-speed, high-volume one-to-one copier; 3) A blowback is produced from standard microfiche at either 20×1 or 24×1 magnification. (A medium-volume copier is used for the 20×1 and a high-speed

copier for the standard 24×1 reproductions). Orders that can be satisfied by pulling a stock copy are usually completed within two working days. Those orders that require either one-to-one copying or blowback from microfiche typically require two to five working days depending upon the size, format, and quality of the source document or microfiche.

Although an order may be accepted for processing by the online order system, it still may not be possible for it to be satisfactorily filled. At times, extenuating conditions such as poor format, legibility, and/or reproducibility arise which could result in delays.

To aid the user in understanding some of the conditions contributing to the Facility's inability to fill an order within the usual two to five day time frame, or to fill the order at all, the following information has been gathered. (These examples are by no means all encompassing.)

NASA "A" (A10,000)

This accession series consists of items accessioned and processed by the American Institute for Aeronautics and Astronautics for the journal, *International Aerospace Abstracts*. Items in the series are from the open literature and are included in the NASA database.

Continued on page 2

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NASA supported "A" accessions are identified on NASA/RECON by an asterisk immediately after the accession number (i.e., 88A12345*). AIAA regularly distributes to the Facility IAA microfiche, from which reproductions for these NASA-supported items are made. The RECON system shows the existence of microfiche by displaying a pound sign after the asterisk (i.e., 88A10360*#). When this condition prevails, the Facility can usually reproduce and ship the document within five working days.

When an asterisk is not shown, it means that the document is a non-NASA sponsored item. Similarly, when the pound sign is not shown, it means that no microfiche was created for the item. The absence of either an asterisk or a pound sign necessitates forwarding the order to AIAA in New York for servicing.

NASA "N" (N10,000)

The N10K series consists of items published in *Scientific and Technical Aerospace Reports (STAR)* which are unclassified and deemed of significant current interest to NASA and the aerospace community. These documents receive full Facility processing (e.g., abstracting, indexing, subject categorizing, and microfiching, if not already on magnetic tapes and/or microfiche). It is important to note, however, that not all reports announced in the N10K series are available from the Facility. The availability section of the RECON citation display identifies the activity from which particular documents may be obtained. Those documents which show the availability as NTIS (National Technical Information Service) in most cases are available from the Facility as well. Documents which do not carry the NTIS availability must be obtained from the listed source.

Generally, all NASA sponsored reports in the N10K series are available in hardcopy stock, case file copy, microfiche, or in a combination of all three. As in the A10K series, NASA supported N10K accessions are identified on NASA/RECON by an asterisk immediately after the accession number. The presence of microfiche is identified by a pound sign.

For hardcopy requests, stock copies are used until stock runs out. When stock is available, the item is generally mailed within two working days.

When no stock is available, the requested document is blownback from microfiche. In those rare instances when neither a stock copy nor a microfiche is available, a one-to-one reproduction is made from the case file processing copy. If reproduction is necessary, the item is usually mailed within five working days from date of receipt.

Non-NASA sponsored documents accessioned in the N10K series are received from a variety of domestic and foreign sources. Generally, such reports are received as single hardcopy or microfiche, and no hardcopy stock is available. The single case file copy is reproduced as needed to satisfy requests. Other-agency microfiche received by the Facility are generally second generation Diazo copies. These micro-

Microfiche Format

The Facility collection of NASA sponsored STAR and IAA microfiche covers a span of over 26 years. During this period, the standards by which microfiche were produced changed on three occasions:

Format	Accession Range	Availability From Facility
5 x 8 inch (84 frames)	A64-12300 - A64-19999	Cannot be filled by Facility. Order is transferred to AIAA.
	N62-10000 - N64-19999	NASA supported items can be supplied in hardcopy from a 1 x 1 case file reproduction. Non-NASA items cannot be filled since case files are no longer available.
4 x 6 inch (60 frames) 20:1	A64-20000 - A73-16610 N64-20000 - N72-33975	Can be filled by Facility using medium volume copier.
4 x 6 inch (98 frames) 24:1	A73-16611 - Present N73-10000 - Present	Can be filled by Facility using high volume copier.

A stringent quality control check is made for each reproduction to ensure that it meets the acceptance criteria for distribution. Should the reproduction fail the acceptance criteria, the user is notified and a determination is made as to whether the order should be filled or rejected. Delays are expected in these instances.

fiche copies received in the standard format are used by the Facility for reproduction. Thus, the resultant blowback copy may not be of the best quality. Often, additional handling is necessary to obtain a good readable copy. Should marginal copies result, the user is notified and given the opportunity to either accept or cancel the order. It is important to note that documents on microfiche are designated by a pound sign

Continued on page 3

Focus On... *Continued from page 2*

following the accession number. The pound sign is used without regard to the source or quality of the microfiche.

NASA "N" (N70,000)

The N70K series consists of older unclassified documents, documents not announced for administrative reasons, or documents of limited aerospace significance. These are cataloged, indexed, subject categorized, and included in the computerized database, but are not announced in an abstract journal. The majority of these reports are NASA supported and are received as a single paper copy only. The source documents are of varying size, format, and quality. Generally, microfiche does not exist for such reports, and requests for these items require one-to-one copying.

The NASA STI Facility welcomes any suggestions users may have with regard to ordering documents from the collection. The Facility Staff is committed to providing a reasonable, responsive, high-quality document turnaround service. If you experience any problems or unreasonable delays with your order, please contact us at (301) 621-0160.

Citations Defined as Export-Controlled

Several NASA/RECON users have inquired which citations in the STI Database are considered export-controlled documents. NASA has defined that abstracts of X10K and X70K accessions that reference documents with availability limited by the International Traffic in Arms and Arms Regulations (ITAR) and Export Administration Regulations (EAR) are to be handled as export-controlled documents under the terms of U.S. law. These citations clearly show either a **Limited by ITAR** or **Limited by EAR** statement following the **SAP:** output tag. Other citations in these "X" series are limited by NASA policy, and all citations derived from online searching of NASA files are limited to activities in the U.S. unless a formal information exchange exists.

NASA Integrated Library System Meeting

Focusing on ARIN (Aerospace Research Information Network) FY 89 plans and schedules, the NASA Interinstallation Project User Committee (IPUC) met on August 23 and 24, 1988, at the NASA STI Facility.

Pete Messina, NASA/ARIN Program Manager, led the group in reviewing and assessing the requirements needed to implement the Acquisitions subsystem of ARIN. ARIN Cataloging and Circulation subsystems are now in the final stages of completion. Library Acquisitions subsystems are designed to handle the paperwork involved in buying library materials including purchase orders, fund accounting, tracking order status, preparing payments, and management reports.

Data gathered from a Booz-Allen and Hamilton questionnaire/survey of the NASA libraries' acquisition requirements was presented. A functional overview of acquisitions by ARIN Project Staff included a comparison of requirements cited in the Booz-Allen survey and the functions presently available in the NOTIS software.

Dale Hood of NOTIS, demonstrated the online system and responded to audience questions. NOTIS is the ARIN software vendor based in Evanston, Illinois. Control of serials such as journals and annuals was also considered.

Implementation of KWSF (Keyword Search Facility) was reviewed on the second day. An online demonstration was provided which showed the subsystems' capabilities to locate words or phrases anywhere in the existing online ARIN bibliographic record.

Other areas of discussion were: serials bibliographic and holdings data conversion; MIS (Management Information Systems) requirements; PSCN and other communication issues; user registration; CCB (Configuration Control Board) items; and committee reports.

Milestone Firsts of the Space Age

In September:

- **September 17, 1968:** The Soviets' Zond 5 executes the first circumnavigation of the Moon in a checkout of procedures for possible Russian lunar flights.
- **September 1, 1979:** Pioneer 11 becomes the first space probe to encounter Saturn, returning the first close-up pictures of the planet and its mysterious rings.

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Postal Manual) Do Not Return

Johnson Space Center News

We regret to announce the death on July 18th of Marty McDonough who had served as Head Librarian of Johnson Space Center since 1980.

JSC announced the appointment of Donna McAllister to succeed Marty. She had been the JSC Medical Sciences Division Librarian. Ms. McAllister holds an MLS from Emory University and has worked as a reference librarian both in Texas and Georgia. Her mail code is JM2 and her telephone number is FTS 525-4007.

Meetings with Israeli Scientific and Technical Information (STI) Exchange Program Manager

Dr. Beth Eres, the Israeli Program Manager for the October 1986 STI Exchange Agreement between NASA and the Israeli Space Agency (ISA), was at the NASA STI Facility in July. Under the coordination of Phil Thibideau, NASA's International STI Activities Manager, Dr. Eres was at the NASA STI Facility for a technical coordination meeting. The principal issues addressed concerned ISA processing of Israeli technical report materials for the NASA STI System. Dr. Eres also met with other STI Division staff at NASA Headquarters to consider broader policy issues, including copyrights on Israeli theses and dissertations, and NASA processing of Israeli magnetic tapes. Dr. Eres was accompanied to both meetings by the present Israeli Embassy Science Counsellor, Dr. Menachem Tassa, and his designated successor (October 1), Dr. Meir Yogeve.

New Publication

A brief description of a publication recently released by the Scientific and Technical Information Division follows.

NASA Thesaurus: Astronomy Vocabulary NASA SP-7069

Created for presentation at the International Astronomical Union Conference, July, 1988, this publication offers a terminology of descriptors used by the NASA Scientific and Technical information effort to index documents in the area of astronomy. The terms are listed in hierarchical format derived from the forthcoming 1988 edition of the *NASA Thesaurus Volume 1 — Hierarchical Listing*. Over 1,600 terms are included. In addition to astronomy, space sciences covered include astrophysics, cosmology, lunar flight and exploration, meteors and meteorites, celestial mechanics, planetary flight and exploration, and planetary science.

(Available: NTIS or STI Facility, Hardcopy/Microfiche)

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RECON operational problems may be directed to the RECON Coordinator at:

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Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 755-1246.

Detach label with instructions for address or distribution change and mail to: ATTN: Registration Activity, NASA STI Facility.

STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 10

Scientific and Technical Information Division

October 1988

Focus On...

Each issue of the STI Bulletin features a product or service provided by personnel at the STI Facility. This month the Bulletin will focus on:

DOCUMENT DISTRIBUTION BY STAR SUBJECT CATEGORY

NASA S&T reports will be distributed by the 75 STAR subject categories beginning in January 1989 in addition to the current subject division distribution. This distribution option is being developed to better serve the needs of the growing NASA community. Ordering paper copies of NASA reports that are announced in STAR by specific categories allows you to tailor distribution to fit your research needs.

Since 1975, NASA has offered report distribution by 10 STAR subject divisions. This method of dissemination will continue to be available for those who prefer distribution in broader subject areas.

The STI Facility offers two subscription services for document distribution: the Standing Order Service and the Automatic Document Distribution Service

(ADDS). Once a year, subscribers to either service select the reports they wish to receive by report series, subject divisions, or subject categories.

Subscribers to the Standing Order Service receive NASA reports announced within their selected areas each month and are billed accordingly. These subscribers may opt to change the series or subject areas they have chosen at any time.

ADDS offers annual subscription rates at a flat fee. Subscribers prepay for the report series or subject areas they wish to receive during the next year.

If you currently subscribe to either document distribution service and wish to order reports by subject category, or would like more information about these two services and how you may take advantage of them, please contact:

NASA Scientific & Technical Information Facility
ATTN: Registration Services
P.O. Box 8757
BWI Airport, Maryland 21240

Accession Numbers Now Range Searchable on NASA/RECON

One of the enhancements that users suggest most frequently is the capability to select Accession Number (ACC) ranges. NASA is pleased to announce that this feature is now available on RECON.

To SELECT an accession range, use the ACC mnemonic and specify the beginning and ending numbers. Cross file and accession year selection are not permitted. The following example specifies the range for issue 18 of STAR:

SELECT ACC/88N24573-88N25430

As with the KEEP command, 1539 accessions are processed with each range selection. If a user tries to create a set with more than 1539 records, the system automatically truncates the search at that number and displays a warning message. The last

accession number processed, along with the first, is shown in the set response. Create multiple accession range sets and use the COMBINE command to identify more than 1539 items.

HELP messages are available that give the accession ranges for all online files. To display a listing of them, use HELP ACC-RANGE. Use the HELP

Continued on page 2

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Report and Grant Numbers Cataloged Differently in IAA and STAR

NASA/RECON searchers will find it useful to know that in some cases, *STAR* catalogers and *IAA* catalogers observe different conventions in recording report and grant numbers from the same source. When this happens, it may be because the source changed its own number format. Both *STAR* and *IAA* endeavor to maintain consistent report and grant number citations so that similar numbers appear together in indexes. If the *STAR* format is frozen before a change by the source and the *IAA* format is frozen afterward, or vice versa, *STAR* and *IAA* will show different formats for similar report numbers.

An important illustration of this situation involves similar numbers from the Air Force Office of Scientific Research (AFOSR). The *STAR* and *IAA* formats for these are as follows:

STAR

Report: AFOSR-88-0999TR

Grant: AF-AFOSR-0111-88

IAA

Report: AFOSR-TR-88-0999

Grant: AF-AFOSR-88-0111

Therefore, the searcher who seeks AFOSR material by report or grant number will find it necessary to do two expands for each field.

Accession Numbers *Continued from page 1*

command with the file name or number shown to see the ranges applicable to that file. Those file names followed by the word ALT in parentheses denote those series in the alternate database contained in File Collections G and H.

The following examples illustrate the two ways to display the accession range screen for *IAA*, File 115:

HELP IAA

HELP X115

What's New at the NASA STI Facility

User Services Section Created

The Facility combined the STI Services Section with the RECON Services group to create the User Services Section. Managed by Dian A. Marincola, this section is responsible for all registration, document request processing, and literature search activities. The consolidation provides users with a centralized location for accessing Facility services. This Section reports to Joseph E. Gignac, Manager for the Mission Support Services Division.

New Staff in RECON/Reference Services

The RECON/Reference Services group has two new staff members. Kate Kase joins the group as the new supervisor and Jonathan Grant as a reference analyst.

Milestone Firsts of the Space Age

In October:

- **October 4, 1957:** The Soviet Union opens the era of space exploration by launching the world's first artificial satellite, 184-pound Sputnik I.
- **October 7, 1959:** Russia's Luna 3 takes the first crude, intriguing images of the far side of the Moon.
- **October 27, 1961:** The first U.S. heavy-lift booster, Saturn I, thunders aloft on its initial test flight.
- **October 12, 1964:** Sandwiched in their cramped Voskhod I capsule, Vladimir Komarov, Boris Yegorov and Konstantin Feoktistov make the first multi-man spaceflight.
- **October 11, 1968:** Wally Schirra, Donn Eisele and Walt Cunningham orbit Earth for eleven days in the first manned test of the Apollo Command and Service Modules.
- **October 22, 1975:** The television cameras of Venera 9 relay the first panorama of the rocky plains of Venus.
- **October 3, 1988:** The Space Shuttle Discovery lands safely at Edwards Air Force Base.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. The source from which the publication is available is given following the description. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402, or from the National Technical Information Service (NTIS), Springfield, VA 22161. The NTIS price code, accession number, and the GPO order number are given, where available, with the descriptions.

A Bibliography of Dunes: Earth, Mars, and Venus (NASA CR-4149)

Dunes are important depositional landforms and sedimentary environments on Earth and Mars, and may be important on Venus. The similarity of dune forms on Earth and Mars, together with the dynamic similarity of aeolian processes on the terrestrial planets indicates that it is appropriate to interpret dune forms and processes on Mars and Venus by using analog studies. However, the literature on dune studies is large and is scattered in a wide variety of sources. The aim of this bibliography is to assist investigators by providing a literature resource on techniques which have proved successful in elucidating dune characteristics and processes on Earth, Mars, and Venus. This bibliography documents the many investigations of dunes undertaken within the last century. It concentrates on studies of inland dunes in both hot and cold desert regions on Earth and includes investigations of coastal dunes only if they discuss matters of general significance for dune sediments, processes, or morphology. (Avail: NTIS)

NASA Information Sciences and Human Factors Program Annual Report, 1987 (NASA TM-4064)

This report contains FY 87 descriptions of technical accomplishments in seven areas: automation and robotics, communications systems, computer sciences, controls and guidance, data systems, human factors, and sensor technology. (Avail: NTIS)

O Stars and Wolf-Rayet Stars (NASA SP-497)

O Stars and Wolf-Rayet stars are the hottest of all stars yet discovered and represent some of the most massive, rapidly evolving, condensed objects in the sky. This volume reviews observations of these stars taken in visible, ultraviolet, and soft X-ray wavelengths from the ground and from observatories in space. Theoretical models for the atmospheres of these stars are described and critically evaluated. Some implications for the evolution and internal structures of these stars are considered.

(Avail: GPO as 033-000-010-21-4)

Present State of Knowledge of the Upper Atmosphere 1988: An Assessment Report (NASA RP-1208)

This report presents an assessment of the state of knowledge as of March 15, 1988, when the Ozone Trends Panel, organized by NASA and co-sponsored by the World Meteorological Organization, the National Oceanic and Atmospheric Administration, the Federal Aviation Administration, and the United Nations Environment Program, released an executive summary of its findings from a critical in-depth study involving over 100 scientists from 12 countries. Chapter summaries of the International Ozone Trends Panel Report form the major part of this document. Two other sections are Model Predictions of Future Ozone Change and Chemical Kinetics and Photochemical data for Use in Stratospheric Modeling.

(Avail: NTIS)

Planetary Geology: Goals, Future Directions, and Recommendations (NASA CP-3005)

Planetary exploration has provided a torrent of discoveries and a recognition that planets are not inert objects. This expanded view has led to the notion of comparative planetology, in which the differences and similarities among planetary objects are assessed. Solar system exploration is undergoing a change from an era of reconnaissance to one of intensive exploration and focused study. Analyses of planetary surfaces are playing a key role in this transition, especially as attention is focused on such exploration goals as returned samples from Mars. To assess how the science of planetary geology can best contribute to the goals of solar system exploration, a workshop was held at Arizona State University in January 1987. The participants discussed previous accomplishments of the planetary geology program, assessed the current studies in planetary geology, and considered the requirements to meet near-term and long-term exploration goals. (Avail: NTIS)

Reports of Planetary Geology and Geophysics Program - 1987 (NASA TM-4041)

This is a compilation of abstracts of reports from Principal Investigators of NASA's Planetary Geology and Geophysics Program, Office of Space Science and Applications. The purpose is to document in summary form research work conducted in this program during 1987. Each report reflects significant accomplishments within the area of the author's funded grant or contract. (Avail: NTIS)

Next Scheduled Shuttle Launch

The 27th Space Shuttle flight is scheduled for November 17, 1988 with the launch of *Atlantis*.

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New Thesaurus Terms

Subject terms recently added to the NASA Thesaurus are listed. These terms are currently available on NASA/RECON. Definitions are given for selected terms. Terms marked with an asterisk will appear in the forthcoming 1988 *NASA Thesaurus*. All other terms are supplementary to the 1988 edition and will appear in the January 1989 *Thesaurus Supplement*. User suggestions for new terms are encouraged. Contact Ron Buchan at the NASA STI Facility (301) 621-0103.

ACOUSTIC COUPLING

ADVANCED VERY HIGH RESOLUTION
RADIOMETER

AEROSPACE ENVIRONMENTS

Scope Note Correction

SN (EXCLUDES SPACECRAFT INTRA-
VEHICULAR ENVIRONMENTS)
Correction of INTERVEHICULAR

ALIPHATIC HYDROCARBONS*

ANDROMEDA GALAXIES*
transferred to ANDROMEDA GALAXY

AVHRR

use ADVANCED VERY HIGH RESOLUTION
RADIOMETER

BRAGG CELLS

C (PROGRAMMING LANGUAGE)

COD (CRACKS)
use CRACK OPENING DISPLACEMENT

CASSINI MISSION

CENTRAL BULGE (GALAXIES)
use GALACTIC BULGE

COMETARY MAGNETOSPHERES

COMPUTATIONAL GEOMETRY

CRACK OPENING DISPLACEMENT

DIATOMS (UNICELLULAR PLANTS)
use ALGAE

ECHELLE GRATINGS

ELECTROMAGNETIC COUPLING

ELECTRON-POSITRON DISPLACEMENT
use POSITRON ANNIHILATION

ELECTRON-POSITRON PAIRS

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STI Bulletin

Scientific and Technical Information

NASA
National Aeronautics
and Space Administration

Volume XVIII, No. 11

Scientific and Technical Information Division November/December 1988

1988 Edition NASA Thesaurus Available in 3 Volumes

The 1988 edition of the *NASA Thesaurus*, (NASA SP-7064), is now being distributed to NASA Centers, NASA/RECON subscribers, and organizations receiving *STAR* through the NASA STI Facility registration. Other organizations registered at the Facility may order the *NASA Thesaurus* from the Facility at a price of \$75. The general public may order the *NASA Thesaurus* from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22162 at a price of \$75. Individual volumes may be ordered separately from the two activities as follows: *Volume 1 - Hierarchical Listing*, \$40; *Volume 2 - Access Vocabulary*, \$20; *Volume 3 - Definitions*, \$15.

The addition of *Volume 3 - Definitions* carries on the precedent begun in the supplements to the 1985 edition. This volume provides definitions for some 3,300 *NASA Thesaurus* terms out of more than 17,000 terms. Many definitions are standardized since they have been derived from standard sources such as the *Compilation of ASTM Standard Definitions* (American Society for Testing and Materials), the *Energy Data Base Subject Thesaurus* and NASA's own *Dictionary of Technical Terms for Aerospace Use* (NASA SP-7). Other definitions are developed by the lexicographer in charge of the *NASA Thesaurus* as well as other sources.

1985 Thesaurus Used in Commercial Thesaurus

Hemisphere Publishing Corporation published a single-volume hard-bound version of the 1985 edition of the *NASA Thesaurus*. It is entitled *Thesaurus of Scientific, Technical, and Engineering Terms* and sells for \$125. This volume provides the entire *Volume 1, Hierarchical Listing*, and the alphabetical portion only of *Volume 2, Access Vocabulary*.

Focus On...

Each issue of the *STI Bulletin* features a product or service provided by personnel at the STI Facility. This month the *Bulletin* will focus on:

CONTINUING BIBLIOGRAPHY SERIES

Bibliographies covering a wide variety of key subject areas and providing a current awareness service are published at frequencies that vary from monthly to annually. Each bibliography assembles recent unclassified and unlimited reports and journal articles announced on a single aerospace topic of wide interest from *STAR* and *IAA*. The selected citations are available on NASA/RECON.

Format

Each entry in the bibliography consists of a standard bibliographic citation accompanied in most cases by an abstract. The citations and abstracts are reproduced exactly as they originally appeared in *STAR* and *IAA*, and include the original accession numbers from the respective announcement journal. The *IAA* items precede the *STAR* items within each category.

The bibliographies include seven indexes - subject, personal author, corporate source, foreign technology, contract number, report number, and accession number - unless stated otherwise below.

The Continuing Bibliography series includes:

Aeronautical Engineering, NASA SP-7037
Aerospace Medicine and Biology, NASA SP-7011
Earth Resources, NASA SP-7041
NASA Patent Abstracts Bibliography, NASA SP-7039
Technology for Large Space Systems, NASA SP-7046
Space Station Systems, NASA SP-7056
Management, NASA SP-7500
NASA Scientific and Technical Publications:

A Catalog..., NASA SP-7063

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Availability

The continuing bibliographies are distributed to NASA Centers, NASA contractors and University libraries free of charge from the NASA STI Facility. All other domestic organizations that are registered with the STI Facility can obtain the bibliographies on a pay basis. The general public may purchase any of the bibliographies from NTIS. Cited documents are available from multiple sources as noted in each issue.

Aeronautical Engineering, NASA SP-7037

Aeronautical Engineering, issued monthly, includes documents on the engineering and theoretical aspects of design, construction, evaluation, testing, operation, and performance of aircraft (including aircraft engines) and associated components, equipment, and systems. It also includes research and development in aerodynamics, aeronautics, and ground support equipment for aeronautical vehicles.

The listing of the entries is arranged by the first nine

STAR specific categories and the remaining STAR major subject divisions. This arrangement offers the user the most advantageous breakdown for individual objectives. An annual cumulative index is also available.

Aerospace Medicine and Biology, NASA SP-7011

Aerospace Medicine and Biology, issued monthly, concentrates on the biological, physiological, psychological, and environmental effects to which man is subjected during and following simulated or actual flight in the Earth's atmosphere or in interplanetary space. References describing similar effects on biological organisms of lower order are also included. Such related topics as sanitary problems, pharmacology, toxicology, safety and survival, life support systems, exobiology, and personnel factors receive appropriate attention. In general, emphasis is placed on applied research, but references to fundamental studies and theoretical principles related to experimental development also qualify for inclusion.

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NASA/RECON Training Schedule

Below is listed the NASA/RECON training schedule for the first half of 1989. All classes currently scheduled will be held at the STI Facility near Baltimore, Maryland. Prices listed are for non-NASA personnel.

1989 Basic RECON Session for New Users:

<i>Wednesday, March 22</i>	<i>One day</i>
<i>Thursday, May 18</i>	<i>\$100/person</i>
	<i>Class size: 12</i>

The Basic training session is designed for the beginning NASA/RECON searcher, preferably with some online experience. The STI database, file, and record structure are covered along with the basic RECON system commands. Search strategy formulation, Boolean logic, and query analysis are emphasized as they pertain to the NASA/RECON system. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

1989 Advanced RECON Session for Experienced Users:

<i>Thursday, March 23</i>	<i>One day</i>
<i>Thursday, April 20</i>	<i>\$160/person</i>
	<i>Class size: 6</i>

The Advanced training session is designed for the experienced NASA/RECON searcher. Basic text searching is reviewed as well as more indepth text searching techniques. Advanced RECON system features and stored search formulation and editing are covered. A series of lectures are combined with hands-on practice. Refreshments and lunch are provided.

NASA/RECON Training Registration

Pre-registration is required for all training sessions. To register, call RECON Services at (301) 621-0150 between 8 am and 4:30 pm ET, Monday through Friday. If a preferred session is closed, ask to be wait-listed. A confirmation letter and registration package will be forwarded for each reservation placed.

Reservations may be cancelled or changed up to five business days before the session. Cancellations after that date and no-shows will be billed for the full amount. New users are entitled to one free training class.

You may be billed to a standing RECON purchase order, to a new purchase order, or you may pay with a company or personal check.

New Publications

Brief descriptions of publications recently released by the Scientific and Technical Information Division follow. The source from which the publication is available is given following the description. Copies may be available for sale from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402, or from the National Technical Information Service (NTIS), Springfield, VA 22161. The NTIS price code, accession number, and the GPO order number are given, where available, with the descriptions.

***Atlas of Galaxies Used for Measuring the Cosmological Distance Scale* (NASA SP-496)**

This atlas of about 322 galaxies, arranged in 95 panels, is comprised of the highest quality photographs obtained with the Palomar 5m reflector since 1950, and the Las Campanas 2.5m reflector in Chile since 1976. The atlas will serve as a reference guide for astronomers planning observational programs with the Hubble Space Telescope. The galaxies represented here have been chosen as the best candidates for high-resolution studies. (Avail: GPO)

***Microgravity Science and Applications Bibliography - 1987 Revision* (NASA TM-4067)**

This document is a compilation of government reports, contractor reports, conference proceedings, and journal articles dealing with flight experiments using a low-gravity environment to elucidate and control various processes or with ground-based activities that provide supporting research. It includes literature published but not cited in the 1984 revision and that literature which has been published in the past year. There are six major categories; electronic materials; metals, alloys, and composites; fluid dynamics and transports; biotechnology; glass and ceramics; and combustion. Also included are publications from the European, Soviet, and Japanese MSA programs. In addition, there is a list of patents and appendices providing a compilation of anonymously authored reports and a cross reference index. (Avail: NTIS)

***Reports of Planetary Astronomy - 1988* (NASA TM-4063)**

This is a compilation of abstracts of reports from Principal Investigators funded through NASA's Planetary Astronomy Program, Office of Space Science and Applications. It provides a summarization of work conducted in this program for 1988. Each report contains a brief statement on the strategy of investigation and lists significant accomplishments within the area of the author's funded grant or contract, plans for future work, and publications. (Avail: NTIS)

***Sapping Features of the Colorado Plateau: A Comparative Planetary Geology Field Guide* (NASA SP-491)**

This book is an attempt to determine geomorphic criteria to be used to distinguish between channels formed predominantly by sapping and seepage erosion and those formed principally by surface runoff processes. The geologic nature of the Colorado Plateau has resulted in geomorphic features that show similarities to some areas on Mars, especially certain valley networks within thick sandstone formations. Where spring sapping is an effective process, the valleys that develop are unique in terms of their morphology and network pattern.

(Avail: GPO, \$6.00)

***Technology for Future NASA Missions: Civil Space Technology Initiative (CSTI) and Pathfinder* (NASA CP-3016)**

The Technology for Future NASA Missions conference was held September 12-13, 1988 at the Capital Hilton Hotel in Washington, D.C. The conference provided members of industry and academia with programmatic and technical information on Office Aeronautics and Space Technology efforts. Areas discussed were CSTI, Pathfinder, and the Research and Technology Base program. (Avail: NTIS)

Focus On...Continued from page 2

The selected items are arranged by *STAR* Categories 51 through 55, the Life Sciences division. An annual cumulative index is also available.

Earth Resources, NASA SP-7041

Earth Resources includes documents related to the identification and evaluation by means of sensors in spacecraft and aircraft of vegetation, minerals, and other natural resources, and the techniques and potentialities of surveying and keeping up-to-date inventories of such riches. It encompasses studies of such natural phenomena as earthquakes, volcanoes, ocean currents, and magnetic fields; and such cultural phenomena as cities, transportation networks, and irrigation systems. Descriptions of the components and use of remote sensing and geophysical instrumentation, their subsystems, observational procedures, signature and analyses and interpretive techniques for gathering data are also included.

The selected items are grouped in nine categories especially chosen for this publication, and differ from those found in *STAR* and *IAA*.

This article will be continued in the January issue of this Bulletin.

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Milestone Firsts of the Space Age

In November:

- **November 9, 1967:** The awesome Saturn V moon rocket, developing 7.5 million pounds of thrust, makes its first successful unmanned test flight.
- **November 11, 1982:** The STS-5 crew of *Columbia* deploys the first of two communications satellites on the Shuttle program's first operation mission.
- **November 28, 1983:** *Columbia* hauls the billion-dollar, European-built Spacelab into orbit for initial flight.

In December:

- **December 14, 1962:** Mariner II passes within 21,600 miles of Venus, sending back the first detailed information about the planet and its environment.
- **December 15, 1965:** Astronauts Wally Schirra and Tom Stafford achieve the first true space rendezvous as they fly Gemini VI-A within several feet of the previously orbited Gemini VII.

- **December 24, 1968:** Apollo 8 astronauts Frank Borman, Jim Lovell and Bill Anders make ten circuits of the Moon during the world's first manned lunar voyage.
- **December 15, 1970:** The Soviet Union's Venera 7 descends via parachute through the thick atmosphere of Venus to achieve the first soft landing on another planet.
- **December 3, 1973:** Pioneer 10 becomes the first spacecraft to explore the Jovian system, returning dozens of images of Jupiter and its remarkable family of moons.

STI Bulletin is distributed to established users to inform them about NASA's scientific and technical information products and services.

RECON operational problems may be directed to the RECON Coordinator at:

NASA STI Facility
P.O. Box 8757
B.W.I. Airport, MD 21240
(301) 621-0300

Suggestions, material to be considered for inclusion, and comments may be directed to Jackie Streeks at the above address or telephone (301) 621-0105, or John Wilson, NASA Headquarters, Code NTT-2, Washington, DC 20546, (202) 755-1246.

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